Industrial FINISHING

SEASON'S
GREETINGS
to all of you—

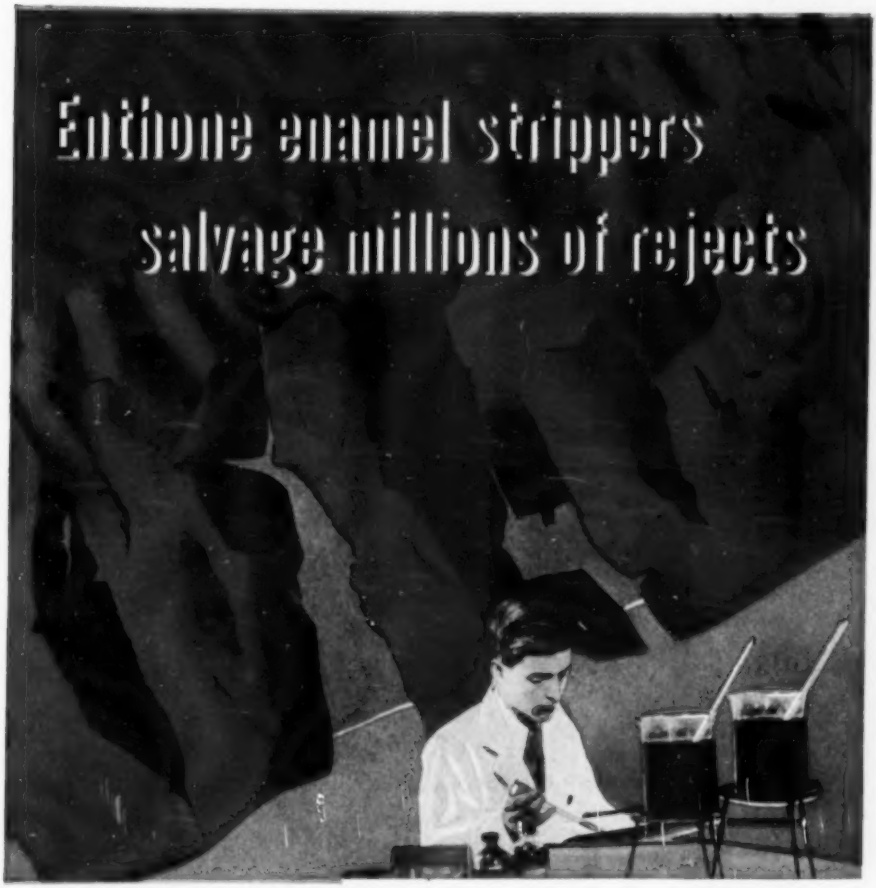
—from all of us at
ADVANCE PAINT

Advance PAINT COMPANY
Indianapolis Indiana
MANUFACTURERS OF INDUSTRIAL FINISHES

TO GIVE YOUR PRODUCT A GOOD START, GIVE IT AN INTERCHEMICAL FINISH!

Undercoats . . . Varnishes . . . Lacquers . . .
Enamels for Metal . . . Plastic . . . Wood

AULT & WIBORG, MURPHY, ROXALIN, AND IC ARE TRADEMARKS OF INTERCHEMICAL CORPORATION



ENAMEL STRIPPERS... Built to Order

Enthone's procedure for selecting scientifically the best stripper for paints, varnishes, lacquers or enamels is simple. You fill out a questionnaire and send it with typical samples of parts to be stripped to New Haven. Here, skilled chemists test the action of many production-proven strippers. If none of these meets the requirements, a new stripper will be developed. Our experience of 15 years in solving stripping problems is at your service.

Write for check list . . .

Sixty Products and Processes for Metal Finishing

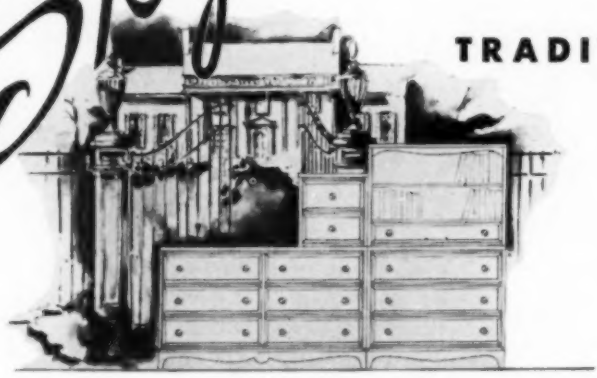
ENTHONE

442 Elm Street, New Haven, Conn.

SHOWERS

Skyline

TRADITIONAL



"HIT IDEA" of the year!

"You arrange it yourself" is the "hit idea" designer Edmond J. Spence has given to this new Shower's group, that combines traditional design with the modern flexibility of combine, group, or stack.

FINISH, especially created for Showers by our Studio, plays a major selling role, because the rich beauty and protective features of *Guardsman quality* have joined forces to make a merchandising idea of irresistible sales appeal.

The Better the Finish, the better the Buy

GRAND RAPIDS VARNISH CORPORATION

GRAND RAPIDS, MICHIGAN

Makers of the Famous Guardsman Finish and Guardsman Cleaning Polish

DECEMBER, 1951
Vol. XXVIII, No. 2

CCA

A monthly magazine for finishing room and paint shop foremen, production superintendents, chemists, purchasing agents and company executives of industrial plants where production cleaning and finishing are major operations in the manufacture of parts and products.

Industrial FINISHING

W. H. ROHR, Editor **P. C. BARDIN, Associate Editor**

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28 TWENTY-EIGHTH YEAR OF PUBLICATION

More Toys. Some interesting statistics were disclosed recently by William A. Wenner, president of the Toy Manunfacturers of the U. S. A., Inc., when he said that the toy volume for 1951 is estimated to be 30 million dollars more than last year, with a manufacturers' value of 330 million dollars delivered or on the way to retailers. That's a lot of toys.

The association estimates there are 45 million children of toy using age, which is 40% greater than prewar years. Prices this year average about 10% higher than last year, and most manufacturers could have sold from 20% to 50% more toys if material had been available. Plastic toys are up about 15% to 20% over last year making a dollar volume of these toys an estimated 50 million dollars. Due to a shortage of metals, wood toys also have increased in volume.

Now what makes all of this so interesting is that every one of these toys, from the smallest gadget to the largest toy auto, has to be painted or finished with a clear coat for protection. Metal cleaning is an operation on all metal toys, and every method of paint application from dipping to silk screen processing is used to make all of these toys attractive.

* * *

A New Fungicide called Nuodex Copper QN-18% has been developed. It is used to resist mildew in textiles such as cotton duck, canvas, etc. This fungicide conforms with government specifications MIL-D-10860, and is easy to incorporate in total treating compositions as it is a readily dispersible paste which flows at room temperature.

* * *

Prevents Explosions. The Schenley Distillers, Inc., is installing pressure-vacuum safety devices in all of its still houses to prevent alcohol vapor explosions. The device relieves excess pressure in the stills and permits vapors to escape through special vents.

This device may prove to be of value in organic solvent stills, and in some ovens where high concentrations of solvent vapors are likely to occur. Any device or system of dispersing explosive vapors is well worth looking into. An explosion may kill or injure personnel, and cause a costly fire.

* * *

Imbedded hot wire. "Thermwire," a new flexible electric heating cable, has been introduced to the industrial and consumer fields by Edwin L. Wiegand Co., manufacturer of Chromalox electrical heating units. The cable consists of a heavy-gauge nickel-Chromium resistor wire with tough abrasion-resistant insulating sheath.

"Thermwire" protects roofs, gutters, and downspouts from dangerous and costly accumulations of snow and ice; embedded in asphalt or concrete, it melts ice from hazardous doorways,

(Continued on page 7)

OUTSTANDING DOLAN PRODUCTS

NO. 1900 RUBBING OIL and CLEAN-UP POLISH

Eliminates haze or blush and produces a clear, clean, dust-free finish that will not finger-mark.

FASTAINS

Newest Standard Shades of red or brown Mahogany, Maple or Cherry Light or Dark Walnut, and matches for any and every desired finish.

LIGHT-FAST—NON-GRAIN RAISING—BRILLIANT—TRANSPARENT—NON-BLEEDING STAINS

LACQUER-TYPE FILLERS

RICH, FULL COLORS, LIGHT FAST, eliminate lifting, bleeding and greying.

LACQUERS

#1350 HI-SOLIDS (35%)
#2100 HOT-R-COLD (35%)
#2150 COMPANION Sealer
WATER-WHITE Lacquer

Also regular lines of highest quality 27% and 21% Lacquers

Sold with an absolute GUARANTEE OF SATISFACTION

V. J. DOLAN & COMPANY, INC.

"Unquestionable Quality"
INDUSTRIAL FINISHES

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NON-INJURIOUS

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NON-INFLAMMABLE

COLD STRIPPER

FASTEST *in Action*

LOWEST *in Price*

WRITE FOR TESTING SAMPLE OR ORDER
5-GALLONS AT DRUM PRICE

Specify whether dip or brush type is desired

Allied Finishing Specialties Co.

2641 W. Grand Ave. • Chicago 12, Illinois

Form-A-Roc • *FIRST COAT*

FOUNDATION FOR FINE FINISH

1. Dries with lacquer speed.
2. Has double lacquer solids at spray gun.
3. Fills very well—sands easily.
4. Adheres tenaciously to steel, wood, presdwood, aluminum, galvanized metal, etc.
5. Holds out lacquer, synthetic or oleoresinous enamels exceptionally well.
6. Thins 3:1 with xylol.
7. Available in GREY, SALMON and OFF-WHITE.
8. Ground well to smooth texture.

MADE BY

THE VARNISH PRODUCTS COMPANY

5206 Harvard Avenue Cleveland, Ohio

steps, sidewalks, driveways, or other pavements where severe and costly accidents occur; prevents freezing of pipes; and provides an easy solution in many other circumstances where a portable, pliable, efficient heat source is required on-the-spot to cope with cold weather problems.

* * *

New Oven Standards. Did you know that the National Board of Fire Underwriters has published a booklet setting forth the new Class A Standards for ovens and furnaces operating below 700° F.? It might be well to have your ovens checked to see if they meet the safety standards established in this book. These standards are not set up to cause you unnecessary worry and expense, but for the prevention of accidents by explosion and fire.

* * *

Stripping Conveyor Hangers is an important adjunct to proper product finishing. It is desirable from the standpoint of cleanliness, but more important, it is necessary to continue producing a quality finish. If allowed to accumulate, the dry material is likely to flake off, and the slightest vibration may cause these flakes to settle on freshly coated work. Hangers can be stripped by the burn-off method, or in a stripper tank, but for high speed efficient finishing nothing will replace automatic stripping of hangers and racks. Paradoxically speaking, equipment that is continuously cleaned requires no other cleaning.

* * *

"Dynel"; It's New. Nearing the end of its first year of commercial production, dynel, new textile fiber made by Union Carbide & Carbon Corp., has gained wide acceptance in a varied group of industrial end uses.

(Continued on page 8)

D. O.
(DEFENSE ORDER)

or

B. A. U.
(BUSINESS AS USUAL)

You'll Rate Duralac

O. K.

in supplying the following to exact specifications, government or civilian.

- **Lustrous, semi-gloss lacquers**
- **Wrinkles • Primers • Thinners**
- **Specialty Products**

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Duralac Chemical Corp.
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Chemically-Resistant

BAKING FINISHES

Recommended
for
Laboratory Furniture
and
Equipment

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Hospital Furniture

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Etc.

●

Unsurpassed Resistance
to
Acids, Alkalis
and Most
Organic Solvents

●

Inquiries Invited.

Standard Coating Corp.
467 Broad Avenue
RIDGEFIELD, N. J.

The new fiber is firmly established in such products as filter cloth, work clothing, water softener bags, dust-fume bags, paint roller covers, hosiery dye nets and anode bags. It is in late development stages for use in airplane-trim fabric, valve and flange covers, tarpaulins, and other applications that take advantage of the features of the new material.

* * *

Heat Machine. A new 140,000 B.T.U. heat machine for indoor or outdoor use is announced by Fageol Heat Machine Co., Detroit, Mich.

The manufacturer states that, by blowing warm air out of the machine's base along the floor, it creates a 6-foot-high heat blanket and eliminates the necessity for heating vast overhead areas in order to keep workers comfortably warm. It sprays heat from all sides across the floor, consequently it can be located in the center of large areas. The Model PW-140 is designed to comfortably heat workers in areas up to 3000-sq. ft. of confined space or 1600-sq. ft. of open space.

Fageol Heat Machines burn regular furnace type fuel oil of No. 3 or lighter grades or kerosene. Model PW-140 requires no flue or chimney. Self-contained, it has an attached 6-gallon fuel tank and is equipped with wheels for easy portability as a hand truck. Dimensions are 21x33x58-in.; weight 245-lbs.

* * *

Color Mixing. A new color system which will enable dealers to offer a line of 136 paint shades while stocking only 16 basic colors has been developed by Devoe & Raynolds Co., Inc., according to Renshaw Smith, Jr., Vice President in charge of Devoe Trade Sales. This means a minimum inventory and investment for the deal-

(Continued on page 139)

A helping hand . . .
• on Metal Cleaning • Electrolytic Cleaning
• Spray Booth Maintenance
There's valuable assistance you can call for you . . . from your Du Bois representative. He's a technician who has the knowledge, the experience, and the right compounds for every type of metal cleaning and for spray booth maintenance. Back of him is the Du Bois Company, with years of experience in successfully solving problems like your own.
Du Bois Engineered Service is day-in, day-out help—with three essentials: (1) thorough analysis of your operations by trained and experienced personnel, (2) installation of prescribed specialized compounds and (3) continuing inspection and service to keep your operations at peak efficiency and lowest possible cost.
For a comprehensive, no-obligation survey and analysis of metal cleaning or spray booth maintenance in your own plant, write today.
The Du Bois Company
Cincinnati, Ohio
Los Angeles, Calif.

THEIR FUTURE'S

THE Lilly FINESSES COMPANY

High Point, N. C.

IN THE BAG!

Our colleges are crowded with boys and girls who wouldn't be there—if it weren't for the Savings Bonds their parents bought years ago. For these young people the future is already brighter—because of Savings Bonds. Give your youngsters U. S. Defense Savings Bonds this Christmas—truly the present with a future.

YOUR FUTURE is also "in the bag" if you will depend on the Lilly Key to supply the "right" finish for your products. We have been making specific finishes for specific products and purposes for so many years that we have everything necessary (knowledge, facilities, etc.) to produce just the "right" finish for you. Make certain that your future's in the bag by contacting any of the three Lilly plants nearest you . . . so that—

"WITH THE RIGHT FINISH — YOU'LL FINISH RIGHT"

THE Lilly FINISHES VARNISH COMPANY

Indianapolis, Indiana

Gardner, Mass.

Natural heat seals are achieved by oven's bottom entrance and exit.

NO MATTER WHAT THE PRODUCT—

DESPATCH Finishing Systems are designed to finish it better and faster.

They are engineered to fit your particular needs. You can get a complete system or individual units, such as—

- **BAKING OVENS**
- **DRYOFF OVENS**
- **SPRAY BOOTHS**
- **FLOW COATERS**
- **WASHERS**
- **AIRMAKEUP SYSTEMS**
- **CONVEYORS**

Conveyorized—

FINISHING SYSTEM

Producing heavy metal street and highway signs at Lyle Sign Company, Minneapolis, is big business. Durability plus long-lasting legibility are among the top requirements.

To further improve quality and step up production, Lyle Signs recently installed this modern DESPATCH Finishing System with 350 ft. continuous, monorail conveyor and overhead oven.

100 24" x 24" SIGNS PER HOUR

This system is now producing 100 24" x 24" signs per hour, per coat of paint. The oven is a 4-pass, direct gas fired. Its overhead construction allows for bottom entry and exit of the conveyor line, which provides natural heat seals. Much of the floor area under the oven is used for loading and unloading the conveyor and sign racks, thus saving floor space. The route of the conveyor under the oven serves as a cooling area.

Signs are spray painted in a DESPATCH water wash spray booth. From two to three coats of enamel are applied, each being subjected to a 30-minute baking at 300° F.

DESPATCH OVEN COMPANY

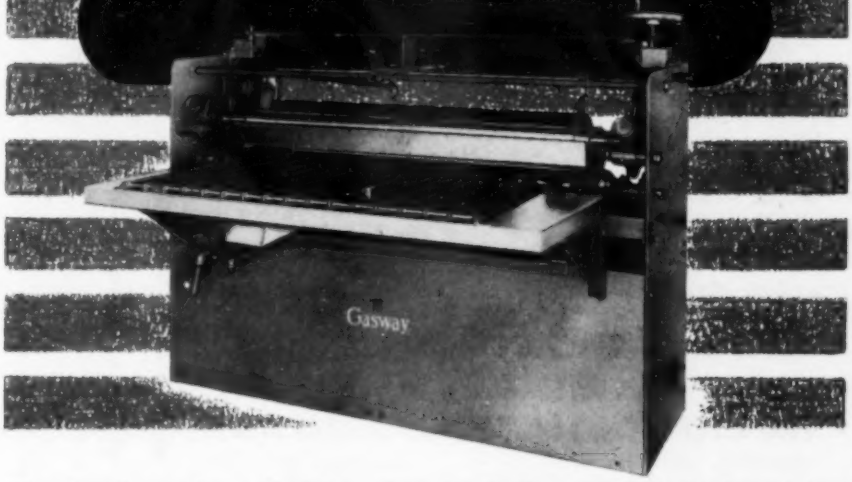
WRITE TODAY for Bulletin 51C or request a representative to call.

Minneapolis Offices: 619 S. E. 8th Street

Chicago Offices: 7070 No. Clark Street

Rollacoat for economy

GET FINER—FASTER FINISHING!



The benefits to be gained by using the Rollacoat method of applying finishes and protective coatings, to practically any type of flat materials, are three-fold. In the first place coating speeds are greatly increased over those of any other method and are governed largely by how fast the coated materials can be handled or dried. Secondly, the coverage per sq. ft. per gallon is usually at least 50% greater, the only loss being the paint removed from the rolls at the end of a run. In the third place you obtain finer quality of finish due to accurate control of thickness and eveness of coat.

The applications of Rollacoating are numerous. Top, bottom and sides of practically any type of flat material, whether sheet or coil stock, can be coated by a single pass through the machine.

Special equipment for cleaning, treating, coating, drying, and rewinding strip in continuous process can be constructed to special order.

GASWAY CORPORATION

Write or wire today for the 12 page Gasway illustrated book describing Rollacoat Finishers, their possibilities and limitation.

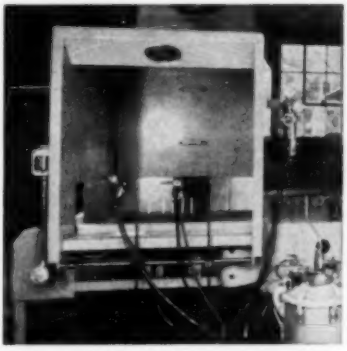
6463 N. Ravenswood Ave.
Chicago 26, Illinois

for volume finishing

OF DEFENSE PARTS

CAPITOL HIGH SPEED
ELECTRIC SPRAY-BAKE
CONVEYOR MACHINE

It will accommodate pieces of from less than 1-in. diam. to over 12-in. diam., which require a high quality finish, such as shell noses, cartridges, weapon parts, also clocks, pens, pencils, door knobs, etc. Positioned on work holders, pieces are automatically sprayed, travel on through a drying chamber for solvent evaporation, and then into electric strip-heated bake oven from which they emerge for a cooling period before being removed.

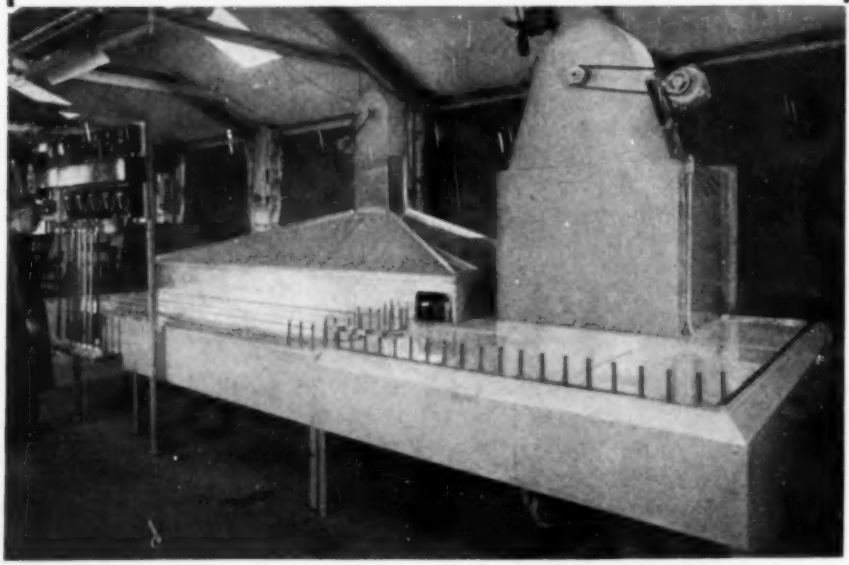


View of booth showing automatic spray guns — lower view shows conveyor arrangement and drying and baking compartments.

Recommended for speedy, high quality production, and exceptional savings in coating pieces of various sizes and shapes that are difficult to handle.

**LET US MAKE A TEST RUN OF YOUR OWN WORK SAMPLES—
NO OBLIGATION.
WIRE, PHONE OR WRITE**

The CAPITOL MACHINE COMPANY
DANBURY, CONNECTICUT **Tel. Danbury 3-2758**



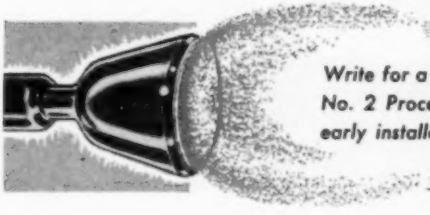
Think of what 99% EFFICIENCY *would mean in your own spray finishing department*

Why, that's almost perfect, you'd say. Practically NO paint loss!

Hard to believe, isn't it? But it's a fact. The new RANSBURG No. 2 Electrostatic Process is making possible new efficiencies heretofore unheard of in the field of spray finishing. In many instances, efficiencies actually exceed 99%!

On most production lines, the RANSBURG No. 2 Process gives 25% to 75% more pieces per gallon than any other spray finishing system.

With the No. 2 Process there's NO overspray to be exhausted. NO compressed air used. NO operator skill required. And, practically all of the many uncontrolled factors in other systems have been eliminated.



Write for a copy of our brochure describing the No. 2 Process in more detail. Case histories of early installations are included in the brochure.

RANSBURG ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

Faced with the need for speeding up production . . . finishing . . . packing schedules?

Here's quick, complete information on two new ways to do it . . . either with lacquer or enamel . . . for either wood or metal application!

Opex® Industrial Lacquer and Fast-Dri Synthetic Enamel are two of a complete line of Sherwin-Williams quality finishes especially designed to meet production line requirements—and as close at hand to you as your local Sherwin-Williams Branch.

Check this handy local source for your industrial product finish needs. Consult your classified telephone directory for location of your nearest Branch—or write for copies of the brochures shown above. The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.

Your "on-the-spot" source for
PRODUCT FINISHES

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

4 shortcuts to SURER finishing results!

How a finish—or finishing system—adapts itself to the practical requirements of commercial production is just as important as how it performs on the finished product.

This is one of the important advantages buyers get with such production-proved Sherwin-Williams finishes as those listed here. They not only better fit the specific needs of the product to be finished, but of the production line as well.

If your production involves the finishing of furniture or wood products of any type, it will pay you to investigate the "shortcuts to surer results"—both in methods and materials—described in these new Sherwin-Williams Brochures. Write for those applicable to your problems. The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.

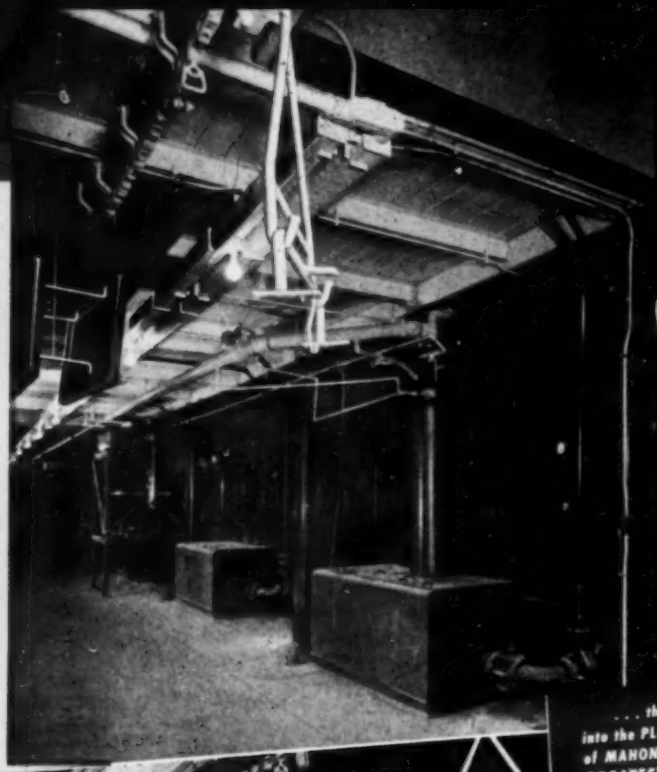
THE SHERWIN-WILLIAMS CO.
General Industrial Division • Cleveland 1, Ohio
Please send Brochures checked below:

- ☐ **K-101 — KEMVAR** — A new advance in high resistance, heat-converting finishes for fine furniture.
- ☐ **T-103 — TV LACQUERS** — Extra-flexible, tough, mar-resistant materials in service on leading makes of TV cabinets.
- ☐ **H-102 — HEETCLAD LACQUERS** — Materials and systems for use with modern, cost-cutting hot spray methods.
- ☐ **H-104 — HOMOCLAD** — A totally unique sealer and system with highest properties of bonding and moisture sealing.

NAME_____
COMPANY_____
ADDRESS_____

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

COMPLET



. . . the **EXPERIENCE** that goes into the **PLANNING** and **ENGINEERING** of **MAHON EQUIPMENT** is the item of **GREATEST VALUE** to **YOU!**

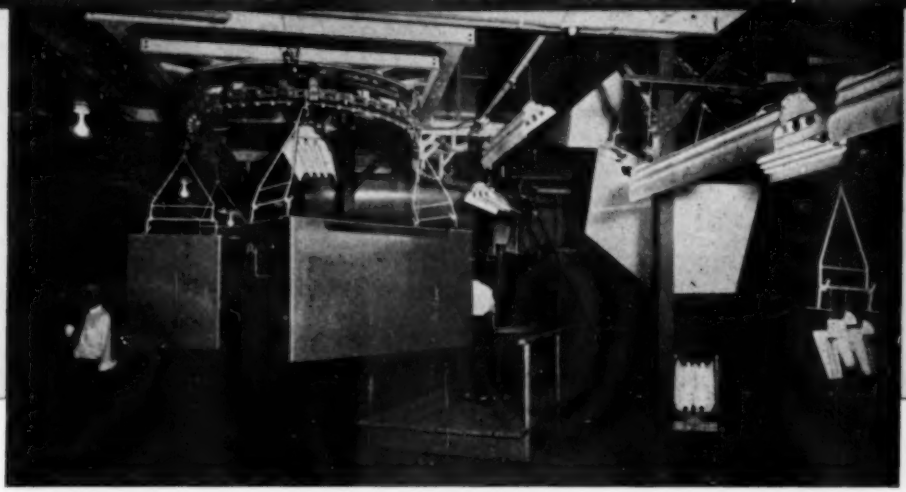
Above: View of Mahon Metal cleaning and Rust Proofing Machine equipped with the new Mahon "Fire-Jet" Heating Units on the Solution Tanks. These Heating Units eliminate all heat exchangers, such as immersion fire tubes, and thereby simplify the maintenance problem. **At Right:** Home Freezer Cabinets and Component Parts passing through the Tack Rag Operation prior to entering the Spray Booths. Note completely finished parts emerging from overhead Finish Baking Oven.

M

E

SYSTEM'S

. . . *for* ENAMELS • LACQUER • PAINT • VARNISH



Modern Equipment at REVCO, Inc., REDUCES FINISHING COSTS . . . PRODUCES FINER FINISH!

Major units of the Complete Mahon Finishing System at Revco, Inc., Deerfield, Mich., are illustrated here. The System provides for continuous processing on a single conveyor line . . . it reduces costs to a minimum, and, through better control of each phase of the finishing process, it produces a finer finish. It is another typical example of cooperation on the part of Mahon engineers in planning a system complete in every detail, yet so compact that it occupies a minimum of floor space. Some of the novel features of the system are the "Fire-Jet" Heaters on processing solution tanks of the Cleaning and Rust Proofing Machine, and the new Mahon "Hydraire" Flood Sheets in the Spray Booths—these provide greatly improved working conditions. When you are in need of finishing equipment you can't do better than to rely on the recommendations of Mahon engineers. Because, Mahon engineers have pioneered development in this highly specialized field for over thirty years . . . they have accumulated a wealth of technical knowledge and practical know-how not available to you elsewhere. See Mahon's Insert in Sweet's Mechanical Industries File, or write for Catalog A-652.

THE R. C. MAHON COMPANY

HOME OFFICE and PLANT, Detroit 34, Mich. • WESTERN SALES DIVISION, Chicago 4, Ill.

Engineers and Manufacturers of Complete Finishing Systems—including Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Dry-Off Ovens, Hydro-Filter Spray Booths, Filtered Air Supply Systems, and Drying and Baking Ovens; Core Ovens, Hydro-Foam Dust Collectors, Fog-Filters, and other Units of Special Equipment.

AHON

STRETCH

your Solvent power with KETONES

How Powerful Ketones cut formulation costs

Every pound of ketones you use s-t-r-e-t-c-h-e-s your ability to formulate high quality lacquers.

Because ketones are the most powerful solvents they give you the highest solids concentrations at all workable viscosities.

And . . . since ketones permit the use of more low-cost diluents without sacrificing quality, they effect material economies.

Moreover, since you buy by the *pound* and sell by the *gallon*, ketones give you more gallons of salable lacquer per pound of solvents.

Ask your Shell Chemical representative to outline the many cost and quality advantages of powerful ketone solvents.

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Los Angeles • Houston • St. Louis • Chicago • Cleveland • Boston • Detroit • Newark

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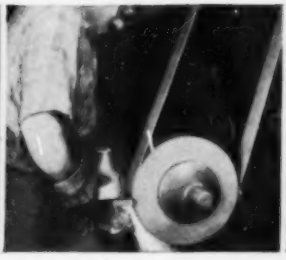
New "61"
CONTACT WHEEL
by CARBORUNDUM
TRADE MARK

. . . improves
Belt Performance!



You, too, can expect and get better performance plus up to twice the life from abrasive belts by CARBORUNDUM. Only one simple change in your present method is required. Use your same backstand grinder and abrasive belt, but install a serrated "61" Contact Wheel by CARBORUNDUM at the "business" end. CARBORUNDUM'S new "61" Contact Wheel provides higher rates of stock removal, extends productive life on the belt, as well. Belt glazing is virtually eliminated. Your CARBORUNDUM representative will give you full details, and will be glad to arrange an impartial production test.

Only CARBORUNDUM
TRADE MARK

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, N. Y.

makes ALL Abrasive Products . . . to give you the proper ONE

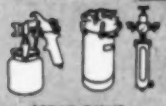
82-151

STEAM SPRAYING

DOUBLE THICK . . .

the **heart** of this revolutionary process is the

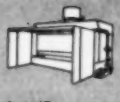
Kellogg-American Steam Spray Gun



SPRAY GUNS AND ACCESSORIES

SPRAY PAINTING OUTFITS

AIR COMPRESSORS



AUTOMOTIVE AND INDUSTRIAL SPRAY BOOTHS

STEAM-SPRAY GUN AND SYSTEM

PUTS ON PAINT . DOUBLE QUICK

Steam Spraying makes possible tremendous savings for industry by reducing finishing costs. Dry, superheated steam, used in place of compressed air, permits the use of higher viscosity paint because paints heated to approximately 165°F. tend to have the same viscosity. This factor alone can cut costs by reducing the amount of thinner or solvent normally required. And because the thinning is done by heat the paint returns to its original higher viscosity on contact with the surface being painted. This means that thicker coats (up to 2 mils) can be applied *in one pass of the gun!* There's your TIME and LABOR saver.

Production line tests show that these savings are available at no cost to the quality of the finish. Steam Spray IMPROVES the application of thicker coats: Dissipating steam reduces overspray usually caused by bouncing air; cooling steam contracts, eliminating popping caused by trapped air expanding under a layer of paint. At similar pressures, Steam Spray handles a higher viscosity material than does compressed air to produce a thicker coat—free of sags and runs. Specific operating advantages like the following demonstrate that this new method probably can save you considerable time and money in your finishing operation.

STEAM SPRAYING applies a greatly improved one-coat finish

STEAM SPRAYING cuts refinishing time

STEAM SPRAYING cuts labor costs

STEAM SPRAYING saves material

STEAM SPRAYING reduces the conventional volume of thinners normally necessary

STEAM SPRAYING reduces the danger of sags, runs, or popping

STEAM SPRAYING increases the operators' productivity

STEAM SPRAYING increases the productivity of existing equipment

STEAM SPRAYING costs less than air spraying

STEAM SPRAYING may be applied to any production operation without elaborate installation or high installation costs

STEAM SPRAYING reduces health hazards

STEAM SPRAYING can improve quality of finish

Brake Shoe can supply you with all the equipment necessary for steam spraying. We will be pleased to demonstrate the process in your own plant or arrange visits to convenient installations.

AMERICAN **Brake Shoe** COMPANY

KELLOGG DIVISION, 94 HUMBOLDT ST., ROCHESTER 9, N. Y.

DOMINION BRAKE SHOE COMPANY NIAGARA FALLS, ONTARIO

Write for FREE illustrated brochure that provides detailed information regarding the advantages of the Steam Spray Gun and System.

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COMPANY.....

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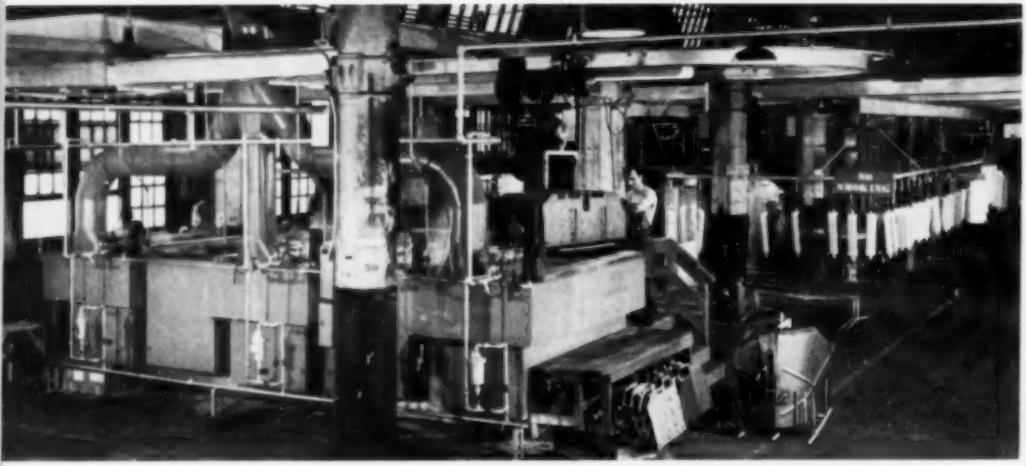
CITY.....STATE.....

Electric Energy Finishing



Five-tank cleaning and phosphate treatment setup, served by traveling electric hoist above.

SOMETHING new in the design of an electric oven installed at the Liquid Carbonic Corp. of Chicago speeds up the baking of paint coating on war goods. This company has facilities for fabricating a tremendous variety of steel and wood items in a wide range of sizes. Several modern finishing departments are required, including large spray booths and a large modern gas-fired, recirculating, convected-heat type oven with overhead trolley and monorail system.

In order to finish sub-assemblies, which include sizable formed, welded and machined steel plate and sheet metal items, a new system was needed. This system was planned by Mr. Joseph Sinder, Methods Engineer, under the direct supervision of Mr. A. J. Bohl, in charge of Standards and Methods for the firm and was built by a Chicago concern that specializes in complete finishing systems.

It was desired to make a compact continuous production system

By BYRON MORRILL of Morrill & Renshaw, Inc.

With Effective Simplicity

for applying two coats of paint (primer and enamel) after cleaning and phosphate treatment. Some of the parts are as large as 4-ft. square, made of ¼-in. thick plate.

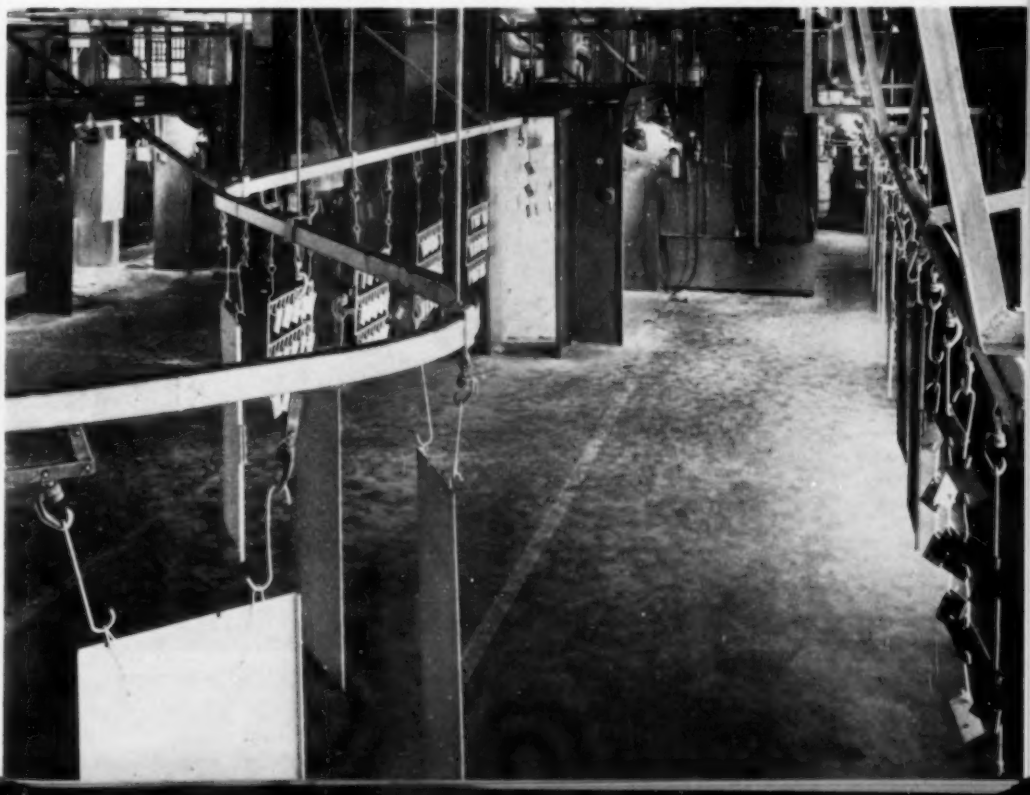
5-Tank Cleaning and Phosphate Treatment

The usual specifications include the following: Coat all of the parts, (except machined surfaces that are masked with tape) with zinc chromate primer; force dry; coat with baking enamel and bake sufficiently to form a hard durable enamel finish.

Because many of the parts are flat and are adaptable to bulk handling in trays or large baskets, it was practical to install a 5-tank hot dip wash system. These tanks are arranged with power hoist and a trolley track overhead handling crane. They include wash, etch, rinse, phosphate coat, and chromate acid rinse.

After the primary metal treatment, parts are hung on the zig-zag continuous power conveyor. The project engineer worked out a special system of hooks and work-

Spray booths in staggered position to permit spraying both sides of work without turning it.



holders. Both universal indexing hooks and highly special ones, adaptable to certain items, are intermingled to handle the planned rate of production.

Circulating Paint System; Variable-Speed Conveyor

Parts to be coated are first conveyed through staggered water wash spray booths which face in opposite directions in order that each operator can spray one-half of each item with the primer coat, without turning the work. These wet spray booths have entrance and exit vestibules designed to confine all of the spray residue and they are equipped with easy removable spray air scrubbers and positive action light eliminators arranged for ease of cleaning by one person.

Spray guns are supplied with paint by a full circulating system through which material comes direct from the original shipping drum. The drum circulating pumps are air-motor driven; these are light enough for an operator to shift from one drum to another. The circulating system includes steel tubes with long-radius bends . . . . leading to both operators in each set of spray booths. Reducing valves are provided for individual spray guns, and agitation is constant within the paint drums.

The enclosed track monorail conveyor has a variable-speed transmission drive which permits an adjustable speed of one to three feet per minute. The usual speed is approximately two feet per minute.

Infra-Red Radiant Heat Bakes Primer and Enamel

The force drying system allows a room atmosphere set-up time of about nine minutes before coated work reaches the oven heat. The

Material is agitated in drum and pumped through paint-circulating system to sprayers.

How is a Compact Like a Rifle?

In both . . . appearance and durability of the finish are marks of quality. Good finishes are good business for manufacturers, merchants, consumers

ZAPON

"SERVICE FROM EVERY ANGLE"

ZAPON makes *good* finishes for a wide range of products.
And ZAPON gives *service from every angle*
. . . selects the *right* finish for the job
then works on the customer's production line
to solve all finishing problems.
ZAPON Finishes are "custom-tailored" for the product.

ATLAS POWDER COMPANY • WILMINGTON 99, DELAWARE

for Industrial Finishes • Stamford, Conn. • North Chicago, Ill.

work is exposed to infra-red radiant glow heat for about eleven minutes, with the air temperature in oven at 225° F.

Ample inspection area is provided as the work cools and is transported to the second set of staggered water wash spray booths. These finish-coat booths are the same design and are equipped similar to the primer-coat booths, with circulating baking enamel.

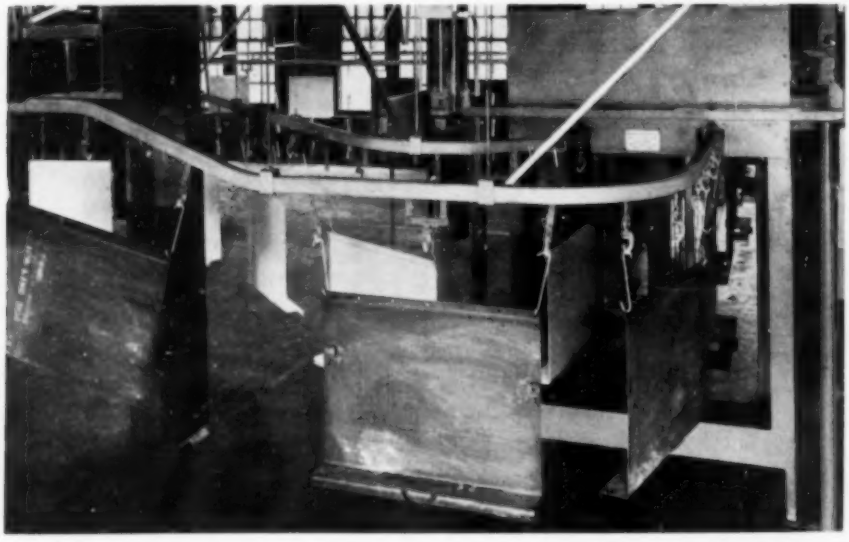
After the finish coat is spray applied, the work parallels the same route as the primer coat. It passes through the same infra-red oven for the same period of fast radiant heat baking.

Insulated Oven Interior Has Highly Reflective Surface

This highly efficient two-pass infra-red oven is powered by G. E. 1000° F. Calrod burner elements. The oven is in the form of a steel tunnel approximately 27-ft. long, equipped with a sub-floor. It is about 6-ft. wide and 7-ft. tall and uses 105-kw. at full heat. The exterior is insulated with corrugated one-inch thick asbestos board.

The entire oven interior is a complete reflective surface. All four walls simultaneously reflect the infra-red rays to the work from the orange-colored "Calrod" heat glow. This simple but effective reflection is accomplished by coating the steel interior walls with 1000° F. aluminum coating. The interior wall reflection and the complete insulated tunnel walls hold most of the convected air heat naturally circulating around the work.

Both ends of the oven are equipped with exhausted air spillways over the vestibules. These spillways remove the contaminated,



Exit end of electric oven.

Tape it with Behr-cat*

Masking is faster when BEHR-CAT Tape is on the job. Here's a tape that takes the task out of masking—unrolls easily, flexes in and around corners, and sticks tight on contours. It's got strength to stretch and a grip that holds until you want it to come off. Moreover, it strips off freely—clean and easy . . . no sticky residue left behind and no paint build-up with thin BEHR-CAT Tape. Get all of these advantages on your next masking, protecting or sealing job. Your distributor can supply you or write direct.

YOUR SPECIAL TAPE PROBLEM is welcomed at BEHR-MANNING. Our fully staffed laboratories are at your service. Put us to the test. Write today. Address Dept. IF-12

*Trade Mark

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division of NORTON Company

▲ COATED ABRASIVES
▲ SHARPENING STONES
▲ PRESSURE-SENSITIVE TAPES

Main Office and Plant: Troy, N. Y.
For Export:
Norton Behr-Manning Overseas Inc.

The electric oven appears just back of the men and the loaded conveyors in foreground.

burned, solvent-filled air to the outside. This arrangement does not permit any appreciable amount of objectionable odor or excess heat to escape into the room.

Electric Safety Features; Oven, a "Giant Toaster"

The power supply contactor is wired to a high-limit safety switch and fan air-flow switch. In the event of excessive heat or exhaust failure, the elements would be automatically disconnected. One half of all the heat is separately controlled by an indicating thermometer which is readily set manually at the maximum desired temperature. By using alternate elements the full radiant heat glow is effective on the work the entire length of the oven travel, even at low heat.

This electric oven reminds the observer of a giant automatic bread toaster. The electric energy glow concentrates heat on the work.

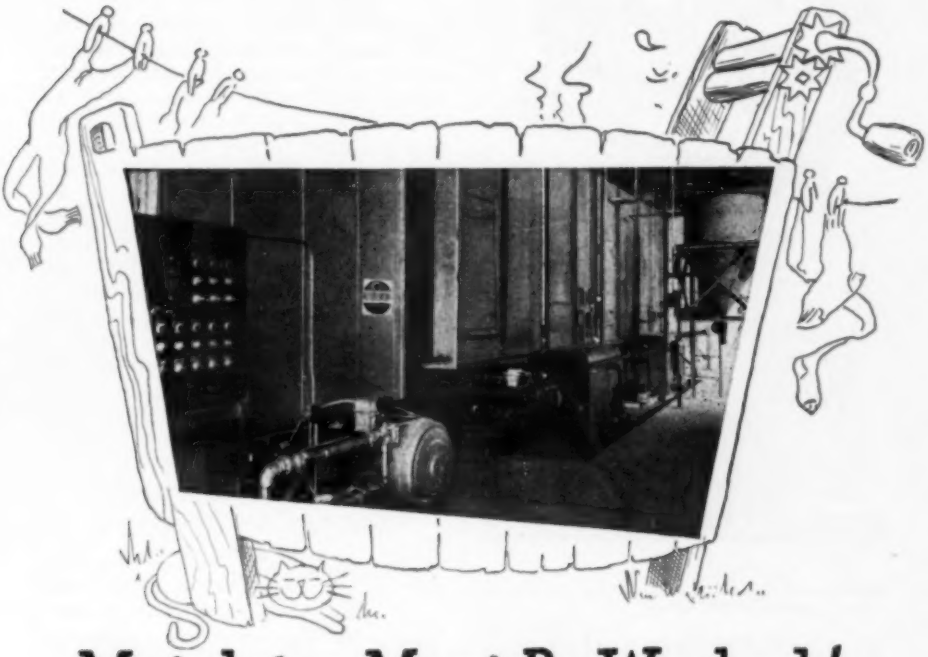
Leaving the oven the work continues on the conveyor for natural room atmosphere cooling and through an inspection space to the unloading station. This completes the cycle for this compact streamlined finishing system.

Labor cost on the paint-line is based on a constant conveyor speed conforming to the recommended oven drying time and the balanced hook capacity that is required for handling and painting parts at normal efficiency.

Incentive payment is based on maximum utilization of the prescribed hook allowances for the various parts to be painted . . . . and is shared on group bonus basis.

Free Book on Paint Spray

Research Products Corp., Madison, Wis., has published a new booklet . . . "If You Spray Paint . . . We Can Help You". It tells how R-P Paint Arrestors can be used to simplify difficulties in the installation and maintenance of paint spray booths.



Metal, too, Must Be Washed!

Yes, not just on Mondays, but every day of the week, 24 hours a day, metal cleaning problems confront the nation's industries.

Too often, responsible personnel attempt to dismiss them by resorting to so-called "cure-alls".

Unlike the old-fashioned wash tub, metal cleaning equipment must be designed for a particular product and a specific process.

Whether your problem concerns between-operations cleaning or paint preparation, insist on washers especially tailored by—

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SAVE MONEY
IN YOUR WOOD FINISHING DEPT.

Standardize on DETROIT HANDY "TAC" RAGS and stop losses due to rejections. Specify "DETROIT" for removing all particles of dust, lint and sand. Try this modern method today. Order from your supplier at once, or send for sample.

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DETRO MFG. & SALES CO., INC., CULVER CITY, CALIF.

LET OAKITE SOLVENT DETERGENTS DO YOUR HEAVY METAL CLEANING

They make it easy for you to preclean before painting and protect against rusting.

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SPECIALIZED INDUSTRIAL CLEANING
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MATERIALS • METHODS • SERVICE
Technical Service Representatives Located in Principal Cities of United States and Canada

Dip-Whirl Coating

MANY SMALL ITEMS can be coated effectively and economically in a centrifugal machine. It is simple and rapid. If the parts to be coated are extremely small so that they would be thrown out of the wire mesh work basket by centrifugal force when the basket is whirled to remove excess paint, the parts may be put into strong but loosely woven cloth bags. This does not interfere with either coating or spinning off excess paint. After coating and spinning the parts are emptied out of the cloth bag into trays for air drying or baking.—*M. O.*

"Cronak" Makes Zinc Corrosion Resistant

ZINC HAS BEEN used as a corrosion resistant material for more than a century. Under most conditions, zinc weathers slowly and uniformly and gives complete satisfaction in the form of zinc die castings or rolled zinc, and as a protective coating for steel in the form of electrogalvanizing or hot galvanizing. When zinc is exposed to stagnant moisture or condensation with limited access to oxygen, however, a non-uniform type of corrosion may occur which often results in the formation of a bulky film of white corrosion products. This may hinder the operation of parts.

The Cronak* process was developed by the New Jersey Zinc Co., about 15 years ago to overcome this condition and has since been in increasing use on both zinc and cadmium. During

*U. S. Patent 2,035,380. Applications for license and for full details of the process should be addressed to The New Jersey Zinc Co., 160 Front St., New York 38, N. Y.

World War II Cronak was used on a wide variety of military items such as shell fuzes, cartridge cases, field telephones, ammunition containers, etc.; and now that zinc die castings and zinc or cadmium plated steel parts are again being produced in quantity for national defense, interest in the Cronak process is high.

The Cronak process consists of the application of a film of basic chromium by immersion in an acidified solution of sodium dichromate. Trivalent chromium and hexavalent chromium are the active constituents. Parts to be treated, which should be chemically clean, are immersed in the Cronak solution at room temperature for a few seconds, following which they are rinsed in cool water and then blown dry. On zinc plated parts the treatment may logically follow the plating rinse. The Cronak film is very thin and adherent and will vary in color, depending upon the original surface, from an iridescent yellow-green to a golden brown. A normal film will have a thickness of about .00002-in. — *The Alloy Pot.*

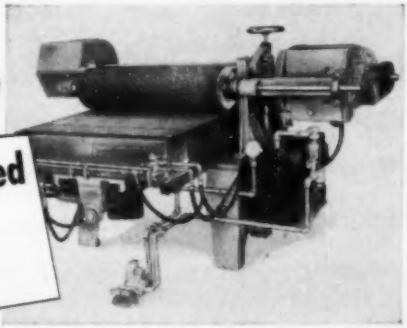
Tinted Glass Reduces Glare

A greenish tint glass that absorbs the sun's heat, reduces eyestrain and keeps fading and bleaching of fabrics to a minimum is the newest product offered by the flat glass industry and soon will replace the colorless glass we have been accustomed to seeing in automobiles, trains, buses, public buildings and eventually in homes, according to a prediction made recently by Richard B. Tucker, V. P. of the Pittsburgh Plate Glass Co.

The new flat glass product, called "Solex," may be bent, laminated or tempered. Made specifically to reduce the intensity of solar radiation, it actually takes the heat out of sunshine but does so without sacrificing the light transmission.

Precision

for improved surface finishing



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SURFACE FINISHING MACHINES

With adjustable, abrasion-proof hydraulic controls permitting rapid change of variables, these machines assure quality surface finishing on a production basis. With magnetic or vacuum chuck, Clair Machines are custom-built to solve your surface finishing problem.

For efficiency in surface finishing products like these:

Screw Drivers
Chisels • Pliers
Saws • Wrenches
Compacts • Fan Blades
Cigarette Cases
Fine Silver
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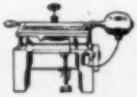
Flat Iron Sole Plates

CLAIR



MANUFACTURING CO., INC.

Specialized Machine Equipment For Glazing and Polishing Operations

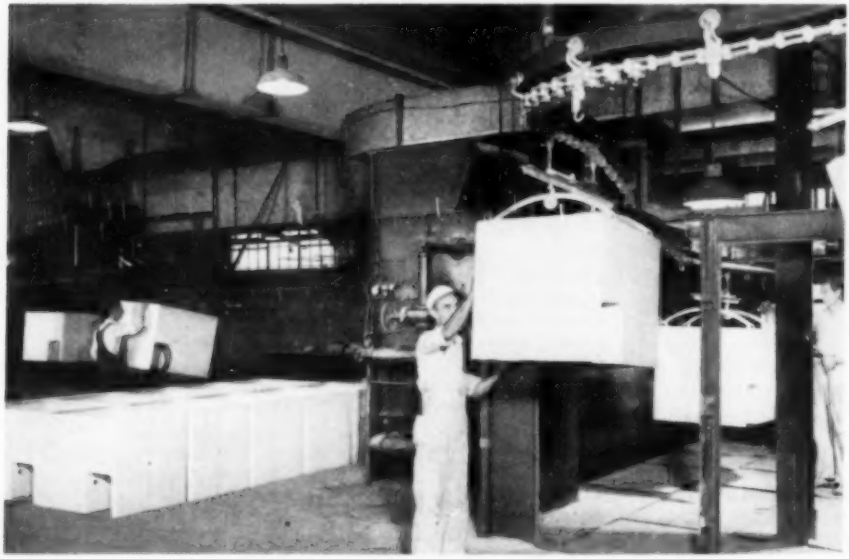
OLEAN, N. Y.

FINISHING Ice Cream Cabinets

By L. B. KERN, Plant Manager
Refrigerated Cabinet Division, Anheuser-Busch, Inc.

Operations on these cabinets include 5-stage pressure spray cleaning and phosphatizing, dry-off oven, prime coat and bake, tack-ragging, top coat and bake.

THE SUCCESS of any finishing system is determined by the consistency by which it is followed. We start with correctly engineered cabinets. Our finishing system is simple; that is to say, there is nothing unusual about it except that it is followed "to the letter", day in and day out. [*To page 36*]



Tack ragging primed cabinets just before they enter water-curtain spray booth where top coat enamel is applied. Note air duct at ceiling height over booth. Additional filters are inside booth at right. Complete absence of dust enables finishers to produce gleaming finish.

THE *Balanced* SOLVENT...

FOR ALL JOBS

BLACOSOLV

FOR ALL METALS OR COMBINATION OF METALS

ONE PRICE
ONE SOLVENT IS ALL YOU NEED

Blakeslee SOLVENT VAPOR DEGREASERS are more economical more efficient—USE LESS SOLVENT

NIAGARA Metal Parts Washers for use with cleaning compounds on either batch or production jobs.

HIGHEST STABILIZED DEGREASING SOLVENT—NOT ALKALIZED!

BLACOSOLV contains the finest and toughest stabilizers to prevent solvent breakdown. You need not pay premium prices for special solvents for different metals. Blacosolv can be used over and over, under the most rigorous conditions, without impairing its high qualities.

G. S. BLAKESLEE & CO.

1844 S. 52nd Avenue • Chicago 50, Illinois
New York, N. Y. Toronto, Ont.

The finishing materials we use are formulated for a definite purpose. If they are correctly applied to a clean, phosphatized metal surface, and baked according to time and temperature specifications, success is assured—and there is no reason for deviating from specified curing of the finish with a constant speed of 5-ft. per minute on the overhead monorail conveyor, and ovens equipped with thermostats and temperature recorders.

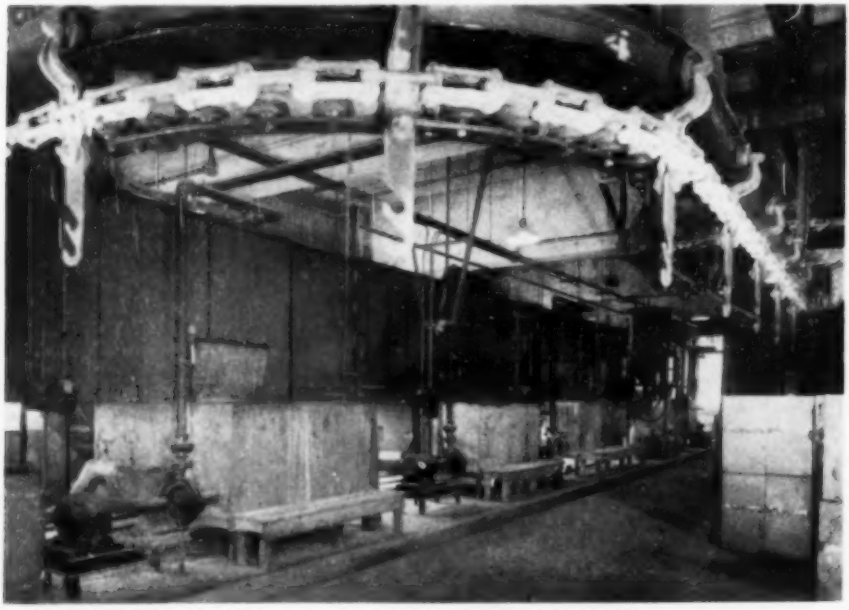
Metal Surfaces Cleaned and Phosphatized

After fabrication, cabinets are hung to the conveyor which takes them through a 5-stage power washer where solutions are sprayed on from four sides at 25-lbs. pressure. In the first stage an alkali cleaner is applied at 175° F.; this is followed by a hot water rinse at 170° F. Next the phosphatizing solution (150° F.) is sprayed on, followed by a cold water rinse. In the fifth stage, a chromic acid solution (140° F.) is applied. The cabinets then pass through a gas fired dry-off oven to remove all traces of moisture.

After cooling for 20 minutes, the cabinets enter a water-curtain spray booth where a white synthetic primer is sprayed on at an atomizing pressure of 75-lbs. and a fluid pressure of 17-lbs. The prime coat is baked for 50 minutes at 385° F.

Upon leaving the prime-coat baking oven, cabinets travel for 30

(Continued on page 38)



Five-stage washer; cabinets are cleaned and phosphatized to promote paint adhesion and . . .

To meet MILITARY SPECIFICATIONS

for Cleaning • Rust-Removing • Etching Phosphatizing and General Metal Conditioning of all kinds of Metal Surfaces

Use PREP PRODUCTS!

SPECIFICATION NUMBER	CONFORMING MATERIAL
MIL-C-5541 (see also QPL-5541-1)	Lyfanite
MIL-S-5002	Lyfanite
MIL-C-10578	
Type 1	Metalprep Nos. 77, 102—Alumiprep No. 1
Type 2	Metalprep Nos. 10, 15—Alumiprep No. 20
JAN-C-490—Grade II	
Type 2	Emulsoprep
Type 4	Metalprep, Prep-Pik-L, Alumiprep, Prep-Rite
Type 5	Metalprep, Alumiprep, Prep-Pik-L, Prepwash
Type 6	Emulsoprep No. 710-E.C.
U.S.A. 3-213	(See MIL-C-10578)
U.S.A. 3-192	Metalprep Nos. 28, 10, 15 Alumiprep No. 20
U.S.A. 98-20007	Metalprep Nos. 10, 15 Alumiprep No. 20 Prep-Rite No. 16
U.S.A. 72-53	(See AN-F-20)
AN-F-20	Lyfanite
	Metalprep Nos. 10, 15, 77, 102 / Alumiprep Nos. 1 and 20 — See MIL-C-10578
AN-E-19	Lyfanite
AN-C-170	(See MIL-C-5541)
TAC-ES-431	(See MIL-C-10578)
AXS-1245	(See JAN-C-490, Grade II)
Engineering Corps—T-1184	Metalprep No. 28
U.S.N.—Appendix 6	Metalprep

51-C

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METAL PRODUCTS

through better finishes

Here is a book that answers all the questions on finishing metal products and shows the methods, techniques, and cost factors in producing them.

Just Published

FINISHING METAL PRODUCTS

New Second Edition describes all recent developments in this field.

By HERBERT R. SIMONDS and ADOLPH BREGMAN, Consulting Engineers. 352 *pages*, 5x8, 135 *illustrations*, $4.00.

A COMPLETE PRACTICAL MANUAL covering usual types of finishing—galvanizing, polishing, plating, lacquering, painting. Also discusses fully such subjects as use of color and production and use of prefinished materials.

COVERS FINISHING from a business and sales standpoint. Deals with methods that improve results and reduce costs. Helps you determine types of finish with greatest sales appeal.

EXPLAINS SHOP TECHNIQUES. Tells how to reduce polishing and buffing costs. Gives techniques for cadmium plating, chromium plating, spray coating. Tells how to use enamels and lacquers in metal parts production.

This up-to-date, handy manual should be at the finger-tips of plant managers, superintendents and foremen. Send your remittance today to

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

minutes to cool before they enter the top-coat spray booth. Just outside this booth, the entire cabinet is tack ragged to remove any accumulated dust or foreign particles. In the booth the top coat of white synthetic enamel is sprayed on, using the same atomizing and fluid pressures as were used for the prime coat. The top coat enamel finish is oven baked for 50 minutes at 285° F.

All spray booths are of the water-curtain type and only filtered air enters them. The conveyor chain is sufficiently heavy to carry its full load with ease. All solutions in the power washer are titrated at regular intervals, and maintained at prescribed levels of strength. Both prime-coat and top-coat bake ovens have thermostats and recording thermometers. The finishing materials are formulated for these specific cabinets. With a simple system, adequate equipment and careful supervision, a uniformly durable, quality finish is bound to be the result.

Al. Lippman, Jr., Is Made G.M. of Commonwealth Eng'ing. Co.

The Commonwealth Engineering Co., Dayton, Ohio, has appointed Alfred Lippman, Jr., as general manager of its laboratories.

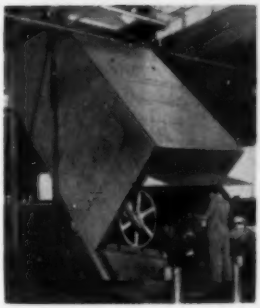
Mr. Lippman was with a well known chemical company for 19 years, the last 12 of which he was manager in charge of production, research and development.

He was an honor graduate of the College of Engineering, Tulane University, in 1929.

OVER 150 Years OF COMBINED OVEN ENGINEERING EXPERIENCE

BAKING AND DRYING OVENS DESIGNED TO FIT THE JOB

When you have a baking or drying problem, take advantage of our engineering staff's long and specialized experience in the designing of ovens for leading manufacturers throughout the nation. If you will tell us your requirements, we shall be pleased to give you our recommendation.



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QUICK SERVICE

MICHIGAN OVEN COMPANY SILVER MICHIGAN MOCO

Representatives in Principal Industrial Areas

MICHIGAN OVEN COMPANY

4540 Grand River Ave. Detroit 8, Mich.

Coating Inside Steel Drums

STEEL DRUMS and containers are protected from their contents, and contents from the metal, by an inside coating based on Vinylite resins. This coating will flex and conform to a dented contour, with no breaks in the protective coating if the container is dropped or otherwise roughly treated. Strongly adherent to the drum wall, the smooth, glossy lining retains its elasticity after long aging and will not chip, blister, or peel under severe use.

The Vinylite resin-based coating is odorless, tasteless, and resistant to moisture, oil and grease, most weak acids, salts, dyes, wetting agents, dispersing agents, alcohol, and similar chemicals. The lining offers exceptional resistance to abrasion from granulated chemicals, and its hard surface can easily be cleaned with a damp cloth or by washing, to prepare it for a change of content.

Applied with brush or—more efficiently and economically—with conventional spray equipment, the coating is normally force-dried for about 15 minutes at 250° F. The Vinylite resin-based coating covers 400-sq. ft. per gallon per .001-in. of thickness. Drum linings are usually made from .002 to .004 inches in thickness.—*Bakelite News.*

American Air Filter of Canada

The Canadian business of the American Air Filter Co., Inc., Lousiville, Kentucky, after January 1, 1952, will be handled by American Air Filter of Canada, Ltd., Montreal, P. Q. Mr. Wm. G. Hole, formerly of Darling Bros., Ltd., will be in charge of all Canadian operations. Representatives will be established in the larger Canadian cities to handle the AAF line of air filters, electronic precipitators and Roto-Clone dust collectors.

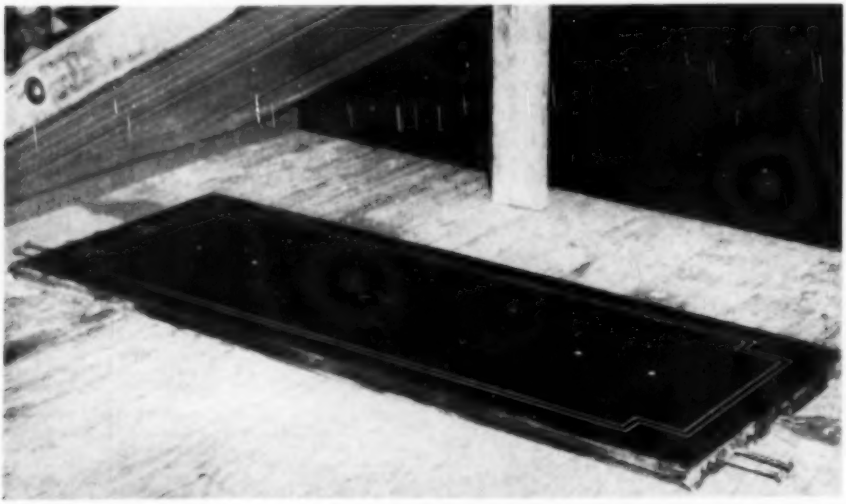
APPLYING INLAY LINES BY THE *Silk Screen Process*

BY J. G. McCOLLAM

IN RECENT years the silk screen process has been adapted to more phases of industry. One of its applications in furniture finishing is to put on decorative lining which was formerly applied as narrow inlays or painted stripes. In the particular case I have in mind, the silk screen lining operation is used on the doors of radio-record player combinations to simulate a holly inlay.

Although the economy realized by the use of the silk screen is considerable, it entails some special handling problems which, at times, are quite aggravating. In the first place, since the silk screening is done after the sealer coat has been sanded, it is necessary to finish the doors and cabinets separately.

On one job that I have in mind special racks, each large enough to hold 20 doors, were built; and trucks holding three such racks were employed. Special racks were used to hold one door at a time in each spray booth. These racks held



One of the mahogany cabinet doors in position under upraised silk screen stencil, after the "white holly inlay" lines have been applied. Notice two nails in each hinge routing; these nails enabled us to hang doors in portable racks where they dry while in the finishing room.

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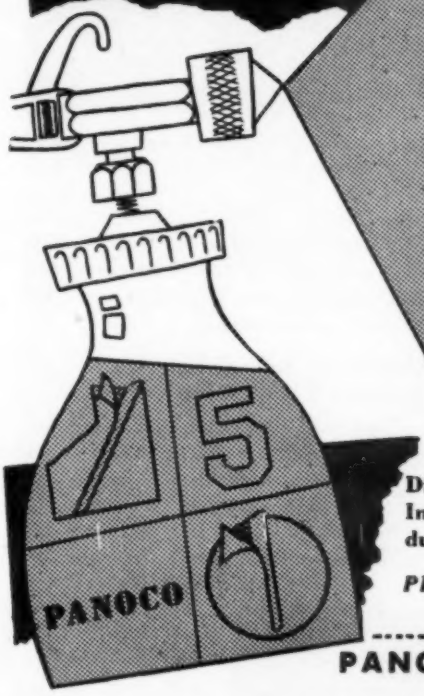

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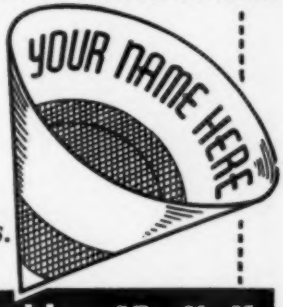

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PANOCO 505 Carroll St., Brooklyn 15, N. Y.

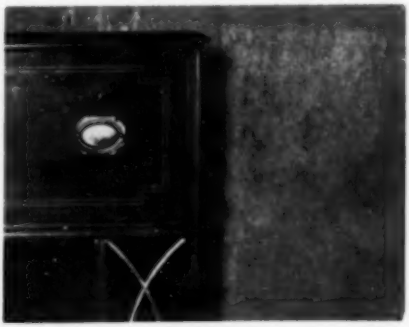
the doors in vertical position so that both sides could be sprayed by simply rotating the turntable.

Sequence of Operations Before Screen Stenciling

Now let us follow the doors from the first step that was aimed at the ultimate silk screening operation. After all of the mill work was done the doors were glue sized and placed in racks to dry. While they were drying, sixpenny nails (1¼-in. long) were driven into the hinge routing. These nails were used to support or hang the doors in the sides of the transportation racks.

After the glue size had dried overnight, the doors were belt sanded and given a final inspection before entering the finishing room. The doors and cabinets were stained, wash coated, sanded, filled, sealed and sanded. At this point, the cabinets were moved on to the first lacquer booth, while the doors were sidetracked to a silk screen station.

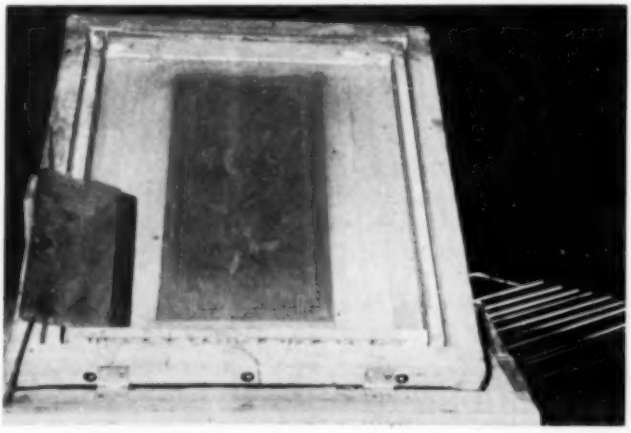
Five or six racks (100 to 120 doors) were the average day's run; silk screening this quantity is usually accomplished in an hour, including setting up the operation and the subsequent cleaning of the screen and squeegee.



Partial view of a finished cabinet showing silk screen stenciled "white holly inlay."

Details of Screen Stencil; Process Paint; Operation

The silk screen was supplied, mounted on a wooden frame. This frame was then hinged to a base consisting of a piece of ¾-in. plywood about one foot longer and wider than the frame. Into the free



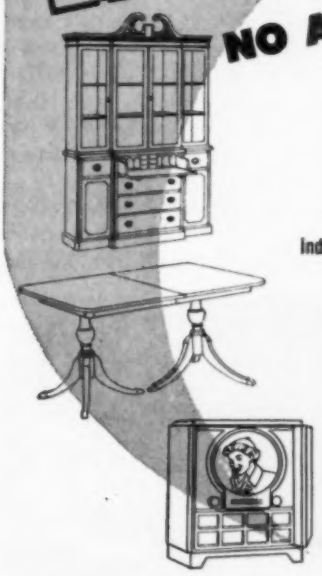
View of hinged edge of the upraised silk screen stencil frame mounted on level plywood base. Squeegee tool is resting in frame, at lower left. Edges of a few doors in rack show at lower right.

BARRETT'S

WONDERFLAT LACQUER

the flat lacquer that requires

NO AGITATION • NO RUBBING



Here's a remarkable furniture and cabinet lacquer that imparts a rich, smooth rubbed effect on any type of wood, yet requires no agitation or hand rubbing!

Because of an exclusive manufacturing process, the flatting agent in BARRETT'S WONDERFLAT stays in suspension indefinitely, even under wide extremes of temperature. This not only eliminates the costly and time-consuming step of agitation but insures complete uniformity of results — each piece takes the same rich depth and satin texture regardless of time interval between jobs.

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BARRETT'S WONDERHOT LACQUER . . .
. . . a hot lacquer offering these outstanding advantages:
• Fewer coats required in most cases! • No agitation—no rubbing! • Flatting agent not affected by heat! • Provides clear finish in any sheen! • Available in flat, gloss or semi-gloss!
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Positioning of door to be screen stenciled while front of silk screen frame is raised and squeegee rests at bottom of frame. The edges of door are placed against adjustable guides on base, to assure correct alignment.

end of the frame (opposite the hinged end) two wood screws were driven. These screws were long enough to adjust the level of the screen so it rested ⅛-in. above the surface of the door when it was in position on the base. Adjustable lugs were attached to the base to help position the door for proper alignment of the silk screen lines. All of the bottom side of the silk screen that did not come in contact with the door was covered with masking tape. This covering of tape reinforced the silk and added to the longevity of the screen.

The silk screen process paste was a lacquer base material specially formulated with slow drying solvents and was reduced to a workable consistency with a "tailor-made" thinner that maintained the proper viscosity during the screening operation. The process paste was thinned to the right consistency, as determined by experiment.

Operation of the setup is as follows: Approximately one pint of process paint is poured into the hinged end of the silk screen frame. The silk screen is lowered into position over the door, clearing it by ⅛-in.

Stenciling 100 Doors an Hour; Drying; Lacquer Coats

The squeegee is grasped firmly in both hands and is drawn with considerable pressure toward the operator in one uniformly steady stroke. The squeegee is then lifted from the frame and placed in the hinged end. Working in this manner, the average worker can process about 100 doors per hour. As soon as the day's run of doors is finished, the silk screen and squeegee are thoroughly cleaned with ordinary lacquer thinner.

Unless the humidity is exceptionally high, the silk-screened doors are ready for the first coat of lac-

With silk screen stencil frame in position the operator uses squeegee to draw process paint across stencil. The free end or front of screen stencil frame comes to position in proper level alignment (not too high not too low) because of two screws (one at each corner) which contact the flat plywood base.

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Industrial Finishes for Application by All Methods

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Strictly pure, of course, and carefully made from fine ingredients, Day's Shellac is trade-marked Du-Pros from the double process which produces the best shellac varnish.

• *IN STEP WITH THE TIMES* •

JAMES B. DAY & CO.

CHICAGO 14

quer in an hour. This first coat should be applied lightly. If an excessively heavy coat is put on, or if the humidity is too high, there is a tendency for the silk screen lines to sag under the lacquer.

Small perforations and holes that develop in the silk screen can be mended with nitrocellulose cement or, in some cases, with masking tape applied to the under side of the silk screen. At all times, one or two extra silk screens should be available. Otherwise, serious production losses may occur due to silk screen failure.

In figuring on any silk screen operation, one should always bear in mind that although the operation itself is an extremely inexpensive one, special handling and special equipment entailed by, and rejects due to the silk screen operation may more than offset any economy.

Barker Chemical Co. Moves to New Office and Plant

Barker Chemical Co., manufacturer of thinners and lacquers, now occupies its new plant and office at 700 E. 138th St., Chicago 27, Illinois. (Telephone, Waterfall 8-5000).

The new office is located across the street from the plant and is a new one story air-conditioned building of modern design and construction, size about 40x60-ft.

The new factory buildings occupy part of the space on a 17-acre tract of ground which is accessible to both land and water transportation. A railroad siding extends up to the plant where tank cars can be unloaded and loaded directly into and from large storage tanks, the total capacity of which exceeds 250,000 gallons.

In the four new buildings that make up the present plant, every safety precaution has been included to reduce to a minimum the hazard of fire or explosion. Special cement floors and loading docks are non-sparking and non-static.

All operating, maintenance and storage facilities — tanks, buildings, handling equipment, motors, pumps, mixers, piping, wiring, switches, meters, controls, ventilation—are underwriter approved and of the most modern type. Experienced chemical safety engineers, conversant with the materials handled and the latest equipment available, were called in to assist in planning the entire plant layout. As a result, what might otherwise be hazardous areas, hazardous conditions and hazardous operations have been made, as nearly as possible, non-hazardous.

Manufacturing and storage facilities, exclusive of the tank farm, are concentrated in four one-story buildings that have a total floor space of about 12,000-square feet.

Facilities were carefully planned to provide maximum mechanical means for manufacture, aimed at increasing production and lowering costs. For example, a 12,000 gallon tank car of thinner can be blended, agitated, tested and filled ready for shipment in 3½ hours. On the other hand a 5-gallon can of special blend can be precision metered with uncontaminated solvents direct from storage tanks.

The Barker Chemical Co. produces an adequate line of standard or general purpose thinners and its chemical staff specializes in developing solvent formulations designed to increase efficiency and lower cost of applying coatings under conditions peculiar to the customers location or type of manufacturing operations.

Zannoni Heads Technical Sales for Iridescent Pigment Corp.

Mr. Peter J. Zannoni has been appointed head of Technical Sales for The Iridescent Pigment Corp. of America, Wilmington, Dela. He will have charge of the Wilmington office, and begins his service January 1, 1952. Mr. Zannoni has been associated with The Delaware Research Corp.

This view shows only part of the Barker Chemical Co.'s new plant and storage facilities.

NIKOLAS

SINCE 1890

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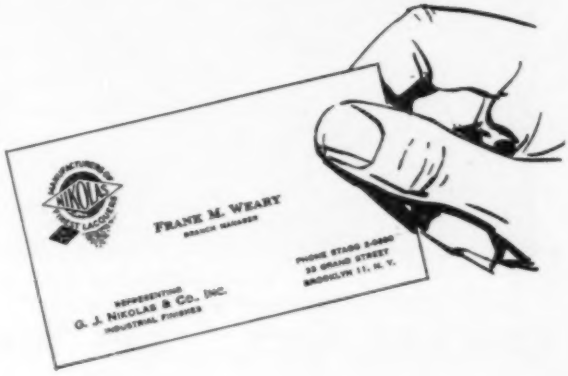

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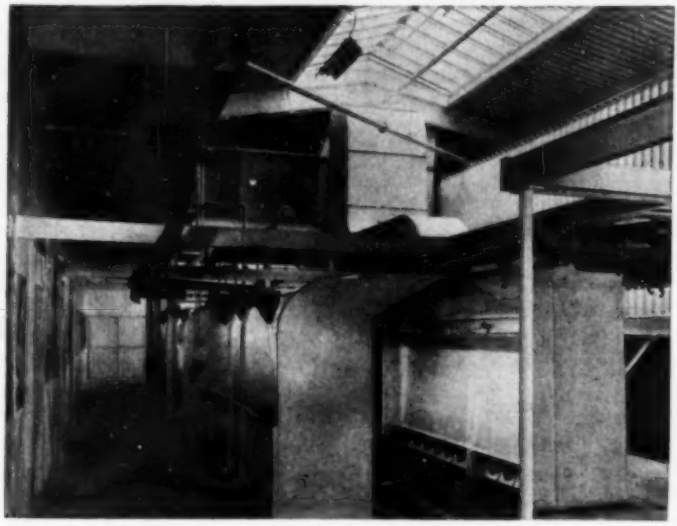

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reduces spray booth rejects . . . saves "do-overs"!

AAF AIR FILTERS increase spray booth production in two ways. By pre-cleaning *make-up* air they eliminate a major cause of rejects and allow smooth, dust-free finishes. They also distribute air evenly over the face of booths, so that gun patterns are uniform and "do-overs" reduced to a minimum.

Since AAF pioneered air filtration for finishing, it has developed filters of many types and designs to meet every finishing problem. Three that are currently in demand are:

AMER-*glas*—a disposable filter of the viscous impingement type with media of continuous glass filaments formed in a thick resilient pad.

AC-2—A permanent, washable unit with specially designed "herring-bone" baffles. Also viscous impingement type.

H-V—a high velocity permanent unit with uniformly high cleaning efficiency over a wide range of velocities. Exclusive pyramid pocket media design.

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American Air Filter
COMPANY, INC.

210 Central Avenue, Louisville 8, Kentucky • In Canada: Darling Bros., Ltd., Montreal, P. Q.

OR, a Good Salesman Can Give You More Than a Line and a Free Steak

BY H. H. CONNELLY

"ANY TROUBLE for me to chew on this trip, Bert?" Tony Teague asked as he eased his oversized posterior into the chair across the desk and settled back to hurriedly replace the air he had lost pushing his 240-lbs. of lard up to the third floor finishing office.

"I always have trouble, Tony", I replied. "Right now my biggest problem is deciding which one is to get priority."

"That", he declared, "makes me feel good. I'm serious. After selling finishing materials for 20 years, a customer without troubles is like a cake without icing. I grow fat on it. In fact, there's only one thing I can think of that could be more boring. That's being married to the same woman 20 years without a quarrel.

"When I start worrying—everything's perfect; no beefs; smooth sailing. They fairly shove me out the door in their rush to let my competitor in."

"Come Tony. You don't mean you want me to be griping about your product every time you call?"

(Continued on page 50)

Tony—Salesman and Trouble Shooter

"Go on. I asked for it. But I mean it. If you're having any kind of finishing problem, I'd like to know about it; my product or the other guy's. But if it's mine, for Pete's sake, I want to know about it before my competitor." He stopped to mop his face and then continued.

"Every finishing man has his troubles. Sometimes it's the little things—pin holes, scaling, splinters, orange peel, blushing, blisters—they pop up for no apparent reason. I've a hundred plants on my rounds and everyone has, what he thinks, is a brand new ailment. And always I remember another Joe who had a similar infection and how he cured it. I give him the prescription. If it works, he thinks I'm about the smartest huckster in the trade. If it fails—well, I confess, he thinks all my fat isn't confined to my rear, so we try another.

"They're not all that easy. A few I call on are swiveled back, with their feet so high that it's hard to know which end I'm supposed to do business with." He paused to wipe the perspiration off his double chin the second time, grinning broadly at my feet on the desk.

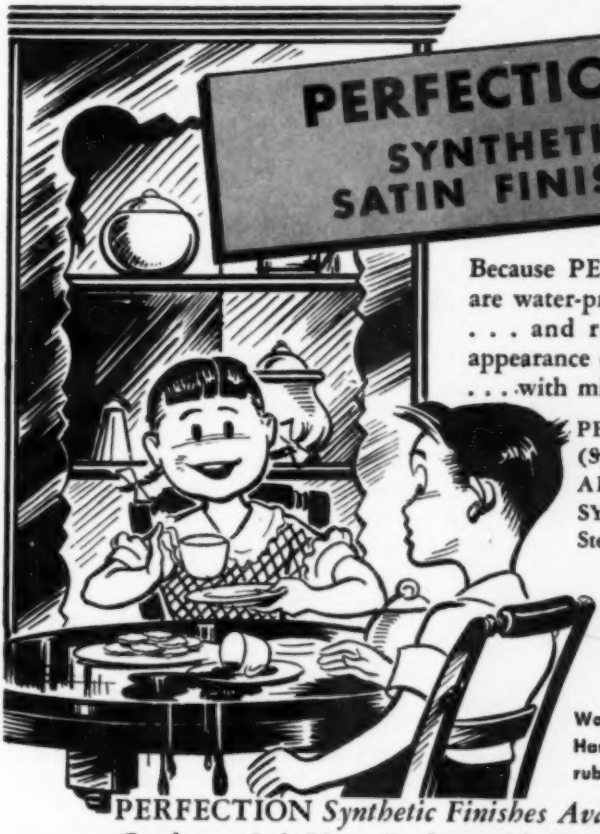
"The man without occasional finishing trouble is either a damn liar or suffering from hallucinations. Troubles are growing pains. When we stop having them, watch out. For instance, concerns celebrating their centennial are still having as many problems today as they had 100 years ago. Not over how to do a French polish job, of course, but how to get the best finish from the new alkyd resin or high solids lacquers."

Sewing Cabinets (Mahogany) Showed "White Specks"

"You've made a sale, Tony," I said, easing my feet self-consciously off the desk. Going across the room I took a neat little four drawer mahogany sewing cabinet out of a shipping carton and set it in the light. It looked like some roughneck had stood back about two feet and sprayed white paint on the

Mamas DON'T WORRY

WHEN FURNITURE IS FINISHED WITH



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PERFECTION FINISHES (Synthetic or Lacquer Type) ARE FLATTENED BY SYNTHESIS rather than by Stearate or Other Foreign Flattening Agents.

Clarity of Gloss Lacquer even in lower sheens • Will either gloss or dull rub • Won't haze or sweat back • Has that rubbed effect without rubbing • Has a waxed feel.

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PERFECTION PAINT & COLOR COMPANY

715 E. Maryland St., Indianapolis 2, Indiana

Perfection SYNTHETIC FLAT FINISHES

WATER-PROOF LIQUOR PROOF

ends. "Remember the great Johnson? He said, 'When any calamity has been suffered, the first thing to remember is how much has been escaped.' Well, we didn't have this calamity till about 1000 of these babies had escaped to the salesroom. So Johnson's advice wasn't worth a thin dime."

"You got grayness, Bert."

"Okay, call it grayness. One of the boys in the sales organization has sarcastically called it white wash. What caused it?"

"Could you tell me when these cabinets were finished?"

"Either in June or July. It's difficult to say exactly. Why?" I was waiting for him to say it was caused by the new filler we had switched to. I had him there. We had been using that filler for six months and had no trouble until this came up.

"This is your lacquer job, Bert. It looks like blushing; but blushing shows up right away from high humidity." He was musing mostly to himself and thoughtfully rubbing his hand over the finish. "You say it didn't show up until after they were shipped?"

"Right. Our inspectors may be nuts but they're not blind."

Filler Not Right—or Not Dried Properly

"I can think of only two things that could cause such a condition, Bert. Either your filler was not cut thin enough, or the filled surfaces were not dry when sealed. Usually the first is detectable soon after rubbing, or even before. I'd say, off hand, that you filler wasn't dry before sealing. It's possible for a condition like that to not show up until the solvents soaked up by the wood cells have had time to penetrate the sealer which, in some weather conditions, may be long enough to get the stuff in cartons."

"Come again, Sherlock", I protested. "We've been drying these pattern holders on the same trucks, same room, same temperature, same time and right with the walnut, too. Not a single kick from the walnut."

"If you had grayness on walnut it wouldn't show up so conspiciously as on mahogany. But you could have it. Do you have a walnut case on the floor, made about the same time?"

We had. Over in Building No. 6, on the first floor. Tony didn't blink when I told him. Just to pay him back for that crack about my feet being in the air, I lead him over three extra flights of stairs. While Tony was catching his breath, I tore open the box and set the cabinet on a table. There was no perceptable grayness at a distance but, scanned closely, there were traces to the experienced eye.

"There it is", he said, pointing out the defect.

"You win, Tony." I admitted, "Now I'm sorry I lead you over three extra flights of stairs. But that still doesn't explain what caused the white wash."

He was quiet on the way back, evidently still puzzled. I couldn't see for the life of me what had happened in three months to make the difference.

"Can we drop off in the filling room?" Tony asked.

"We're there", I replied, opening the elevator door. "Just in time. Ed's filling this morning." [*To 54*]

MAR-PROOF LACQUER

SCHAEFER'S Mar-Proof Lacquer is a performance-proven finish that cannot be easily marred or scratched.

It's tough—tougher than the ordinary lacquers; meets the most critical requirements of current production.

Made in either clear gloss rubbing or satin finish, it produces a splendid transparent coating of full depth on maple, walnut, gum, mahogany and other cabnet woods.

Economical; gives plenty of coverage and dries quickly. Our Mar-Proof Lacquer Sealer is recommended with it for a first-coater.

Working samples furnished without obligation. Write for them!

THE SCHAEFER VARNISH COMPANY, INC.
Louisville, Kentucky

SCRATCH-PROOF

MAR-PROOF

STANDS LOTS OF ABUSE

The filling room was crowded as usual. Long trucks used for storing the cabinets and transferring them to the finishing operations were jammed against the wall opposite the one with the windows. I frankly admitted it wasn't the best condition in the world, but the lighted area near the windows was needed for filling.

Ed was busy breaking in a new filling hand who was showing about as much enthusiasm over the job as a New Zealand head hunter listening to a G.I. lecture on Einstein's Theory of Relativity. When Ed reached a point where he could safely leave, he came over, wiping perspiration from his face.

"We want to check on the filling, Ed," I explained after the usual salutations had run into a lull. "First tell Tony how you're mixing the gooey mess."

"Nothing wrong there", Tony agreed, after listening to Ed review the mixing procedure. "That leaves only the drying to delve into."

"Tony thinks it's either the mixing or lack of drying, Ed", I said, to bring Ed up-to-date on our problem. "Since we're drying as usual, where do we go from here?" I returned to Tony. He was staring at the ceiling and examining the heater units placed around the room.

Mixing's OK but Look! What About Ventilation?

"You don't have much ventilation here, Bert."

"We didn't in the winter either", I reminded him.

"But you had your blowers on to circulate the air that was dry. You don't have a thing but dead air space next to that partition. Your solvents have no place to go."

"Wait a bit", I interrupted, "the solvents will go up to the ceiling and out the windows." He was making this thing too easy.

"I'm afraid I'd better bring you up-to-date on Boyle's theory of gases", he said. "Some gases, like

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- **GIVE YOU A LOWER PER-UNIT COST**
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your feet when relieved of the dead weight, go up. Others go down."

"Go on", I retorted. "Outside of that second crack about my tired feet, you still haven't said anything."

"Look", he added, turning and squeezing through the closely packed trucks of freshly filled cabinets, and motioning for us to follow. "What do you smell?" he asked, when we had joined him.

"Filler", Ed answered, sniffing loudly.

We Assumed That Escaping Solvents Went Up, but . . .

"What your smeller is registering is a mixture of naphtha, turpentine and linseed oil. Now if you were up there I doubt if you'd smell any." He pointed to the ceiling and turned to me.

"What I'm trying to say, Bert, is that these solvents are heavier than air and instead of floating off like helium they're dropping to the floor, enveloping the entire truck in an invisible curtain like a cold morning mist on a mountain stream. You're not getting drying. You think you are, for these solvents escape rapidly at first. Then the surrounding air becomes saturated and drying slows to a snail's pace. With spring and summer rain comes heavy humidity — another strike against you."

Tony Convinced Us That Filler Solvents Settled, So . . .

"Now if you had a conveyor," Tony continued, "to hoist them to the ceiling, the solvents would then settle, letting air circulate freely around the filler soaked wood and you would soon have dry cabinets. Four hours drying is generally sufficient."

A bell started ringing in my thick head and, looking at Ed, I knew he was seeing things, too. When I reach that stage there's only one thing standing in my way—mulishness some call it—having to admit I was too dumb to see the problem first.

"We don't have the conveyor, and we can't use the heat", I argued defensively. It was Ed who started the ball rolling.

"Why couldn't we cut off the steam and run the fans?" he asked.

"Fine", Tony said. "It will help too if you arrange this stock with aisles between, so the air will sweep all the way to the floor."

By that time my morale was about as low as a Texas horned toad. Well, about the only thing that'll give you a boost when you start feeling like a wooden Indian, is to start working on that perverse streak by thinking up something bright yourself. I remembered a big draft fan that we were not using; it was in Building No. 3; I wondered if we couldn't use it.

"What do you know!" Tony exclaimed when I mentioned the idea. "He can think on his feet."

I gracefully ignored the crack and subtly wound him over two extra flights of stairs on our return to the office. He was panting like a fat pup chasing rabbits in the middle of August. You couldn't help loving the guy. After all that punishment, and between many long heaves for air, he managed to gasp out an invitation to lunch.

We put the maintenance crew on the job that evening. Next day,

AS MODERN AS TELEVISION

Gilbert Spruance finishes are kept as modern as television itself — through constant researching, testing and experimentation—in our modern, fully equipped laboratory.

If you have a television set the chances are that the cabinet was finished with Gilbert Spruance stains — fillers — undercoats and lacquers noted for quality, beauty and durability.

If there's a wood finish you wish you had — dreamed about — or just imagined — if there's one you want improved — changed or developed — we invite you to avail yourself of our experience and willingness to work on it for you.

THE GILBERT SPRUANCE COMPANY

PHILADELPHIA 34, PA. • WINSTON-SALEM, N. C.

when I walked in, it looked like a different place. A nice breeze was being hustled through the open windows, across the room to the exhaust fan in the partition. It was at least 5° cooler and I noticed Ed's new man was even showing signs of an awakening interest. Work was really rolling off the line.

That was two weeks ago. Our whitewash has disappeared. Yesterday when Tony was back to check, I'll be damned if he didn't catch me with my feet on the desk again. But it's just like I told Tony. You have to give me credit for having a little something between my ears besides bone. I had sense enough to let a smart salesman work out my problem.

M&W Finish Clinics Timely

Referring to the several Finish Clinics held in various places by Maas & Waldstein Co., manufacturer of industrial finishes, Newark, Chicago, and Los Angeles, Mr. B. F. Ames, General Sales Manager of the company, states that these meetings are intended to embrace the subject of industrial finishes during an emergency economy.

One of the new air-drying enamels that received attention at the November meeting of the Bridgeport Branch of the AES, was "Plextone" the new multicolor enamel. Its unusual hiding properties allow the user to replace critically short base materials with those more readily available; the use of Plextone completely obliterates the substrata and still gives the finished product the desired eye appeal.

Leather fabrics and expensive woods essential to the defense effort can readily be simulated with this finish.

Other materials mentioned at AES meetings include Platelustre transparent enamel coatings which, when used over highly polished metals, produce a finish closely resembling brass, bronze and copper. Metalustre air-drying and baking enamels are also being used to simulate brass, bronze and copper where the substrata cannot be polished to a high luster.

These are but a few of the many materials that are being discussed at the various Finish Clinics, as one of M&W's contributions to industry by keeping users of organic coatings informed of new developments in the field of finishing.

Huber, Manager of Cleveland Office for Hercules

Richard L. Huber has been named manager of the Cleveland office of the Cellulose Products Department of Hercules Powder Co. This office, located at 925 Euclid Ave., Cleveland, will be an independent branch office. Previously it was under the supervision of the department's office in Detroit, Michigan.

The area now under Mr. Huber's supervision includes Cleveland, Akron, and Pittsburgh, Penna.

Mr. Huber has represented the Hercules Cellulose Products Department in Cleveland since December, 1946, when he transferred there from Detroit.

Training Course on Appearance Measurement

An educational course designed to help technologists measure color, reflectance, gloss and other appearance attributes of materials will be held at the Henry A. Gardner Laboratory, Inc., Bethesda, Maryland, during the week of February 11-15, 1952.

Emphasis is on the fundamental, optical and psychological factors which cause materials to appear as they do, and on the measurement of these factors. The course consists of lectures, laboratory work and individual discussions. Those who are interested may write for details and enrollment blanks.

Webb Appointed Alkali Products Sales Manager by Detrex

W. H. Webb has been appointed sales manager of Alkali Products for Detrex Corporation, Detroit 32, Michigan, according to an announcement by A. O. Thalacker, vice president and general manager.

In the past ten years, Mr. Webb has advanced through the positions of Assistant Manager Alkali Division, Assistant National Accounts Manager and Central Region Manager. He has had wide experience in the plating and metal cleaning fields.

As Alkali Products Sales Manager, Mr. Webb will work closely with the specialized field personnel concentrating on serving the consumers of Detrex alkaline and emulsion cleaning materials.

Speeds sanding of metal surfaces preparatory to priming and final finish

Speed the removal of burrs, grinder marks, and other defects in metal surfaces before priming . . . then sand primer coat to a smooth, level surface before final finish. Sundstrand Air Sanders with *Straight-Line Action* are available in single or double pad models, for wet or dry sanding on flat or curved surfaces, to handle almost any sanding operation on wood, metal, or plastics. See your local distributor or write us today for Bulletin IF-12

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.

PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

What this COMPLETE LINE

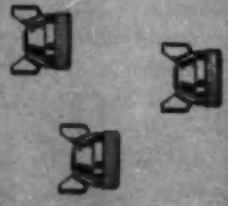
OF SPRAY PAINTING EQUIPMENT

means to you in times like these

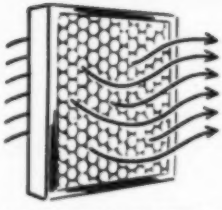
Binks

EVERYTHING FOR SPRAY PAINTING

SPRAY GUNS
36 models



GUN NOZZLES
1080 combinations



AIR SUPPLY SYSTEMS
fresh, filtered and heated air

PAINT CIRCULATING SYSTEMS
for identical finishes

SOUND DEADENING EQUIPMENT
9 models of pumps available

Here is a single source for everything you need for spray painting... from a spray gun to a fully automatic finishing system

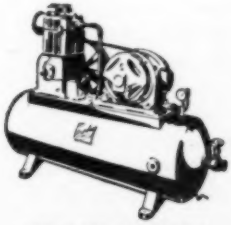
The completeness of this line eases your purchasing and delivery problems.

The standardization of Binks equipment gives you better protection against production delays and maintenance difficulties. Standard pipe threads are used on all Binks equipment.

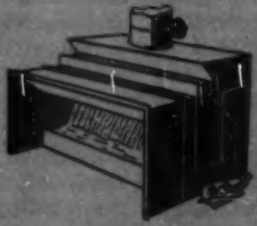
Every item in the Binks line is engineered to work in harmony with the others. When you choose Binks, you know you are buying guaranteed painting performance... for each unit is part of a completely tested and integrated spray painting system.

So get set for the future by getting acquainted with Binks complete line. *Write now for Catalog-Data Book No. 955* which gives information on the products and recommendations about their use to obtain best results. Binks Manufacturing Company, 3116-40 Carroll Ave., Chicago 12, Illinois.

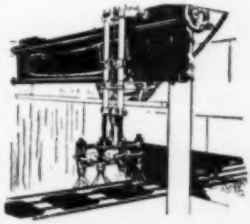
REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY



AIR COMPRESSORS
24 models especially for spray painting



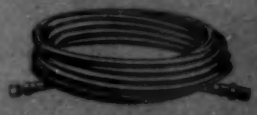
SPRAY BOOTHS
over 210 sizes and styles



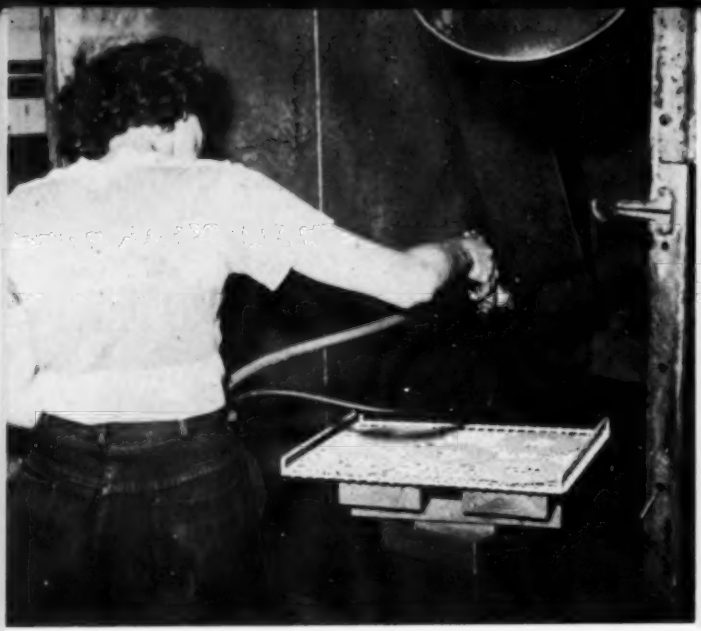
AUTOMATIC EQUIPMENT
for lower production costs

MATERIAL TANKS
2 to 60 gal. capacities

OIL AND WATER EXTRACTORS
7 models to supply clean, dry air



HOSE AND ACCESSORIES
12 types of hose, full line of accessories



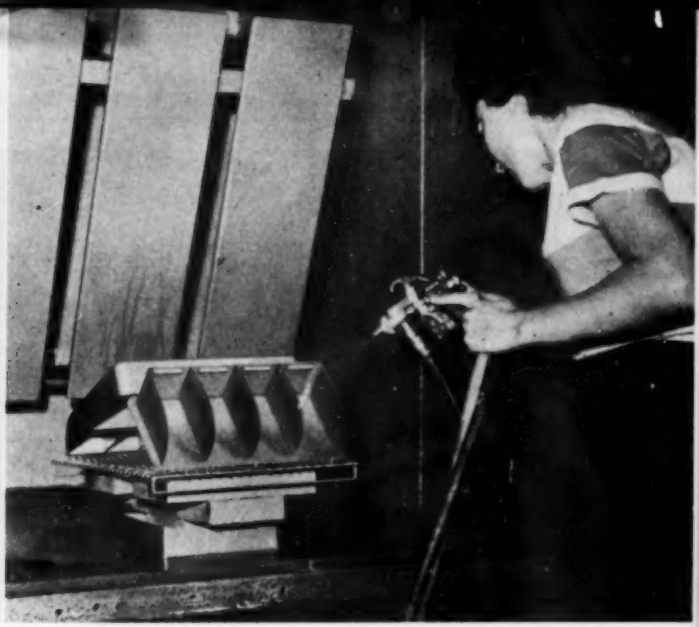
Elec. outlet covers (sheet metal discs with a hole in the center) being painted white as they rest on wire mesh tray in spraying booth.

Finishing Several Different

THE EAST SIDE Tool & Die Works of Portland, Oregon, has definitely proved that it is possible to successfully finish a diversified line of metal products in a relatively small space. The company's finishing room is only 40x40-ft., but in it you see in service a spray booth, portable dip tanks, an electrically heated batch type oven, a conveyorized infra-red electric oven, conveyor extensions, work benches and storage space.

Metal products that are fabricated and finished in this shop include casket and cabinet hardware, and a variety of custom-made items such as cash boxes, school desk leg assemblies, electric outlet boxes, etc. Materials of which these products are made include such metals as steel, aluminum, brass and zinc die castings. A considerable variety of finishes are put on these different products, and usually each one must match a customer's sample.

Diversified metals and diversified finishes—on standard and custom made products—are the order of the day in this small finishing room which also includes facilities for metal cleaning.



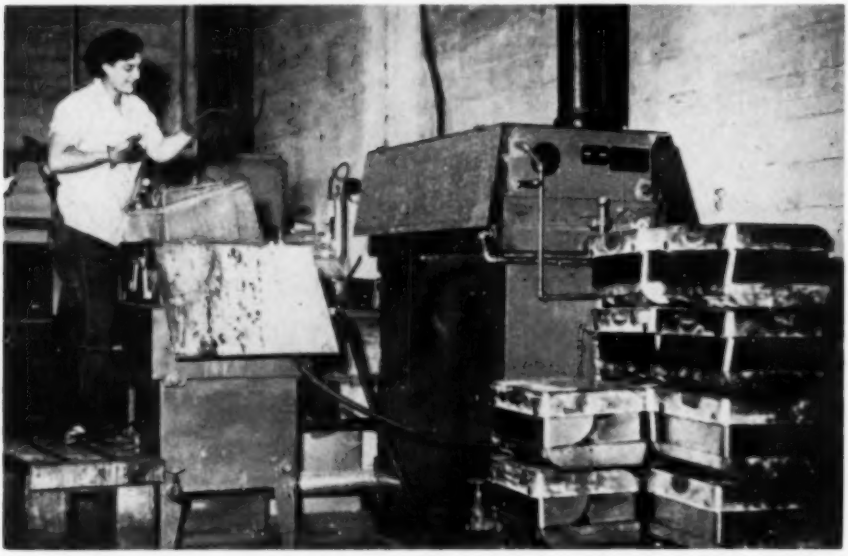
Spraying hammer-effect finish (in silver grey) on cash trays. After this spray painting job, the coating will be baked electrically.

Products in a Small Area

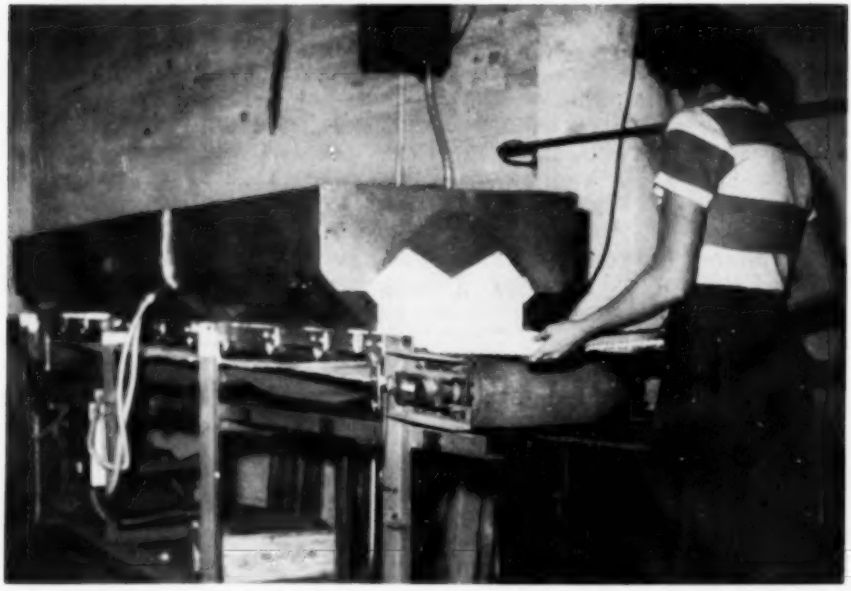
In order to keep several assembly lines supplied with parts, the finishing jobs cannot be segregated to make possible long runs of one type or kind. The spray booth, for instance, must be used for several short runs at one time. One tray of hardware requires a bronze finish; the next tray load perhaps calls for black primer; and the next, baking enamel. To facilitate making these frequent changes quickly, there are four pressure tanks and four spray guns in the booth, always ready for service.

Since what must be cleaned off the metal is reasonably light, all metal parts and products can be satisfactorily cleaned in trichlorethylene vapor degreaser. After the parts have been cleaned they are placed on trays or in boxes for either spray painting or dip coating. Handy trays and racks, for holding work in process, are a necessity in a custom finishing shop. [*To page 64*]

BY HOWARD E. JACKSON



(Above) Fabricated parts to be finished are first degreased in one of two degreasers.



Outside view of adjustable infra-red tunnel and variable-speed wire mesh conveyor belt.

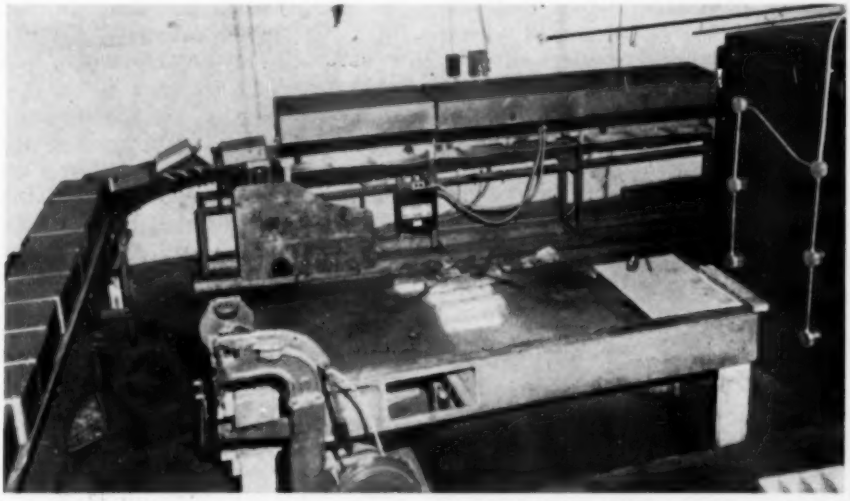
Hardware; Different Metals; Different Finishes

One line of furniture hardware is of particular interest. To lend individuality to the products of certain designers and manufacturers, several different combinations of silver, gold and bronze powders are used in varying percentages in a clear synthetic finish and then sprayed over different metals of which the hardware is made. Among these, steel is the least expensive hardware; die-cast zinc is for medium priced items, while brass and aluminum are for the most expensive hardware.

The various combinations of finishing materials, applied over the base metal, produce an infinite range of tones and textures. To add to this variety of effects, for the less expensive steel hardware, red, blue and yellow analine dyes are sometimes used to bring out the desired individualistic tints.

Placing trays of work in batch type oven.

The success of the cleaning, finishing and baking operations lies in the full and continuous use of



Infra-red tunnel appears in back; extension of conveyor at left; batch-type oven at right.

Looking inside the infra-red drying tunnel through which trays of painted work are moving.

all the equipment. For instance, cash boxes are spray coated with a one-coat hammered-effect finish; then they are put in the batch type oven where the finish is baked for 30 minutes at 250° F. Items coated with wrinkle finish are also baked in this same oven.

Springs for rockers are dipped in brown dipping lacquer, then racked to air dry. Other parts may be either spray painted or dip coated and placed on the stainless steel, wire-mesh conveyor belt to go through the infra-red electric tunnel. This belt conveyor is driven through a variable-speed drive which gives it a speed range of 1-ft. to 12-ft. per minute. The speed used is generally 3-ft. to 5-ft. per minute. Parts baked in the infra-red tunnel are automatically transferred to an assembly belt conveyor.

Those parts that are baked in the batch-type oven and those that are air dried are manually placed on the assembly conveyor. Size of the product, type of finish, baking time and temperature are factors that are taken into consideration before it is decided which oven to use for a specific job. Naturally, with such a diversified line of products, all of the equipment is generally used to full capacity.

Spray booth coating is used inside the spray booth and the entire department is cleaned up daily .... to help insure clean finishing.

A SINCERE

Merry Christmas

and

Happy New Year

to our many friends
throughout the industry.

KIRCO

Kirker CHEMICAL COMPANY

ONE EAST ELEVENTH STREET • PATERSON 4, NEW JERSEY

Continuous Rack Stripper

We have a customer, a blind man, who operates a coat hanger manufacturing establishment. He has a conveyor unit that carries 2000 hangers through a dip tank and 300° F. electric oven, per hour. His problem, which he has given us to solve, is a safe (for him) method of cleaning racks which carry wire hangers through the dip tank.

There is a product used by large manufacturers of hangers which is inexpensive and which will strip the enamel overnight, without necessity of scraping and washing the racks. Safety is not too great a factor, as the assistant working in the plant can see.

Any information you can give us will be greatly appreciated.—*P.G.Co.*

One answer to your customer's problem was revealed in a full-page, 2-color advertisement in Oct. 1951 issue of this magazine.—*Editor.*

Fewer Accidents

On page 4 of August issue, in the "Random Comment", we noticed a paragraph headed "Fewer Industrial Accidents". It would be greatly appreciated if you would give us the address of the American National Safety Council, as we would like to contact this organization to see what measures can be taken in our factory to reduce accident risks.—*F. & Sons, Ltd., South Australia.*

The address of the National Safety Council is 425 N. Michigan Ave., Chicago 11, Illinois, U. S. A.—*Editor.*

For Washing Masks

In the Sept. 1951 issue there is an article on Form Fitting Masks for use in spraying and, on page 50, a picture of a machine for washing masks. I would like to get information on this, such as price, delivery and data. Are you able to get this information for me? If not, will you please forward the name of the company to me and I will write to them myself.—*R. M. Co.*

The machine illustrated happens to be a product of Conforming Matrix Corp. Other concerns that manufacture and supply these masks may have something similar, too; we are not sure. In a letter we are sending you complete names and addresses, so you can write them direct.—*Editor.*

We Plan to Rebuild

We manufacture a varied line of small wood products such as ornamental wood boxes, pipe racks, humidors and other items of small sizes in wood. We have been using clear finishes of sealer and lacquer; also varnish.

Our plant was recently destroyed by fire and we are planning to rebuild. At this time we want to incorporate the best possible method of finishing that is available and which would fit into our product picture. We do not know to whom to go

production managers know...
there's no guess when it's a finish by...
STANDARD
Linked to Industry
They realize that the finish to be used should be tougher, more efficient and more attractive to the eye. They know, too, that whatever finish is applied it must be able to stand up under hard wear and constant abuse and still give greater, more lasting protection. That is why production managers consistently choose with confidence Industrial Finishes by STANDARD—finishes which have proven themselves uniform in performance.
STANDARD VARNISH WORKS
STANDARD-TOCH CHEMICALS, Inc.
NEW YORK
CHICAGO

for recommendations and suggestions, and will appreciate learning if you can give us some counsel and guidance on our problem of layout.—*E. Novelty Co.*

You might get help from the technical representative of a manufacturer of finishing materials or finishing equipment — or you might call in an independent consultant who has no company connections. In the belief that you may be interested in the latter type of individual, we are naming, in a letter, a finishing consultant who has been successful in finishing consultant work in several organizations here in the United States and also in Canada. His background includes actual work as a finisher and foreman finisher in factories that produce furniture, fine cabinet work, store fixtures, etc. He has also had experience as a salesman of finishing materials, service man and formulator of finishing materials. —*Editor.*

"Well, someone has to tell him the table he sat on was tacky; he'll find out sooner or later!"

Mist Custom Finishing

Please advise if you can refer us to a plant that has facilities for spraying fine mist of liquid vinyl chloride resin on lightweight nylon fabric, as per the sample we are sending you. The idea is to render the nylon slightly more impermeable to the passage of steam; without forming a coating that would cause it to be impermeable, which is the objection to a coating job. Any information you can suggest will be appreciated.—*W. W. Co.*

In a letter we are submitting names and addresses of several custom finishing shops that are in or near your locality. Perhaps one or more of them can take care of your requirements.

Pearl Dipping and Drier

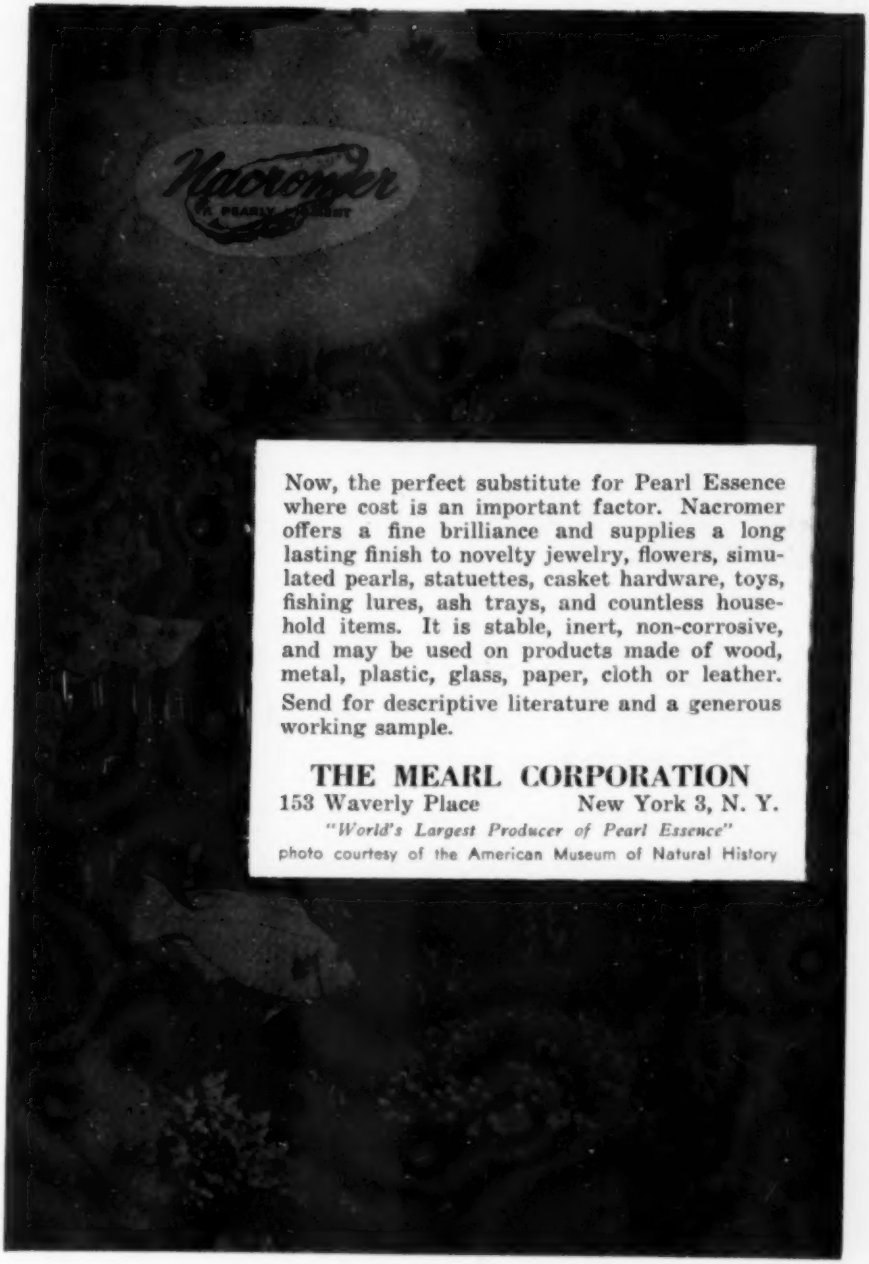
I have been looking over *Industrial Finishing* for June 1950. At page 33 is written about a very interesting machine for pearl dipping combined with drier. The description of the machine, I understand, looks like a merry-go-round. I am interested to get the address of the firm who makes or sells this machine . . . . —*Viktor Ostry, Oslo, Norway.*

The pearl dipping machine to which you refer is manufactured by Debra, Inc., 136 Liberty St., New York 4, N. Y.—*Editor.*

We Do Custom Finishing

On page 94 of Oct. 1951 issue, in the "Letters from Readers" column, an item referring to "Laminated Aluminum Finish for Nickel Chrome", came from O. & N. Co., who wants to sub-contract aircraft seat parts, ash trays, scuff plates, etc. We would like to know the name and address of

(Continued on page 75)



Now, the perfect substitute for Pearl Essence where cost is an important factor. Nacromer offers a fine brilliance and supplies a long lasting finish to novelty jewelry, flowers, simulated pearls, statuettes, casket hardware, toys, fishing lures, ash trays, and countless household items. It is stable, inert, non-corrosive, and may be used on products made of wood, metal, plastic, glass, paper, cloth or leather. Send for descriptive literature and a generous working sample.

THE MEARL CORPORATION

153 Waverly Place New York 3, N. Y.

"World's Largest Producer of Pearl Essence"

photo courtesy of the American Museum of Natural History

FINISHING TOUCH FOR THE LAST WORD IN FINISHES! No wonder "a piano finish" has come to be the standard of comparison for all finishes. Here the mellow glow of DUCO Piano Lacquer on fine mahogany is being brought out by hand rubbing in the plant of a leading piano manufacturer. Modern finishing materials and old-time craftsmanship combine to produce a finish of extraordinary beauty and durability.

PIANO FINISH THAT PLAYS A BIG PART IN SALES

DUCO Lacquer for Pianos—typical of the 12,000 Du Pont finish formulas working for industry today

• Piano manufacturers have learned through the years that Du Pont DUCO Piano Lacquer pays off—both in sales and in trouble-free performance.

In the sales room, DUCO gives the piano a rich, satiny, eye-appealing luster . . . assures the customer that he is making a large investment wisely. In the home, DUCO keeps its beauty . . . wins long-term goodwill for the piano manufacturer. DUCO Piano Lacquer is one of 12,000 finish formulas that Du Pont has developed to meet the needs of industry. Whether you are looking for a way to improve your product, increase sales or lower production costs, contact the Du Pont Finishes sales technician in your area . . . or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Div., Wilmington 98, Del.

DU PONT

REG. U.S. PAT. OFF.

DEPEND ON DU PONT FOR

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

PROTECTING A $44,000,000 INVESTMENT! On New York's huge Triborough Bridge, DULUX Metal Protective Finishes are used to combat corrosion of metal. DULUX Primers discourage rust chemically and provide a fine base for finish coats. And DULUX Top Coats form a tough physical barrier that resists extreme weather conditions for years.

DARK ROOM TESTS WHITE FINISHES for resistance to yellowing. Here chemists leave finished test panels in darkness up to three years . . . periodically check for color changes. Such tests protect manufacturers against losses due to permanent yellowing of finished merchandise left in storage for long periods.

FLEXIBLE FINISH FAMOUS FOR SALES! Venetian blind manufacturers know they can count on DULUX for sales appeal. The brilliant gloss of DULUX catches the customer's eye . . . a variety of long-lasting colors brings out the interior-decorator instinct. What's more, flexible DULUX gives years of protection.

BETTER FINISHES

PAINTS • LACQUERS • ENAMELS • VARNISHES THINNERS • STAINS AND SPECIAL-PURPOSE FINISHES FOR INDUSTRY

DUCO AND DULUX ARE REG. U. S. PAT. OFF.

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The NEW Volume IX of THE CHEMICAL FORMULARY is a collection of new up-to-date formulae compiled by the country's leading industrial and research chemists in each field of industry.

It is an entirely new book, complete in every detail. Each formula is new and different. Not one formula contained in the previous eight volumes is repeated in this book.

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Every important industry will welcome this new collection and tested formulae. All of them are the result of long years of research and millions of dollars spent on experiments. Many of them have never before been revealed to the public.

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Improve your products, add new products to your present ones and make new customers with the help of the NEW CHEMICAL FORMULARY—Volume IX.

No Important Industry Has Been Overlooked!

Adhesives, cosmetics and drugs, ceramics, glass and cement, colloids, farm and garden products, food, ink, and marking compounds, insecticides, fungicides, and weed killers, leather, skins and furs, lubricants and oils, metals and their treatment, paint, varnish, lacquer and other coatings, paper, photography, polishes, pyrotechnics and explosives, rubber, resins, plastics and waxes, soaps and cleaners, textiles are among the products covered in this volume.

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INDUSTRIAL FINISHING Magazine

1142 NORTH MERIDIAN STREET INDIANAPOLIS 4, IND.

this firm. We believe we have a finish that is just what they are looking for.

We are a small concern but can put out lots of work. As an example of our capacity, we can run 850 E2 aircraft lights in an 8-hour shift. These lights are similar in size to the average automobile spotlight or foglight. We have been putting this finish on repaired sash and on hand oil cans. On the cash registers, the finish is put on over chrome and the oil cans on sheet steel. It has proved to be very satisfactory.

We would be glad to submit samples of our work and material along with an estimate. You may forward this letter to O. & N. Co. . . .—*Taylor Finishing Co., "We Start with the Finish".*

Custom Graining of Metal

We are interested in having a quantity of 12-in. square open-end steel cans finished with a painted wood grain. We would appreciate your recommending various processors nearest our factory (Duluth, Minn.) to perform this operation for us.—*P. L.*

In a letter we are naming a few of the custom and commercial finishers located in Racine, Chicago and Detroit.—*Editor.*

Zinc Dust in Paint

We have noticed an article in this magazine concerning zinc dust in priming paints. Our engineers, as well as our maintenance personnel, are very much interested in this article and have asked me to obtain further detailed information relative to this.

Included in this article is the name New Jersey Zinc Co., but I fail to find where they are located. Would you furnish me with detailed data or the proper address of this zinc concern to whom I may write for information? —*P. C. Inc.*

For further information we refer you to The New Jersey Zinc Co., 169 Front St., New York 38, N. Y.—*Editor.*

Tumbling Barrels

On page 16 of October 1951 issue, we see a request for the names of manufacturers of tumbling barrels who can advise about the method of application and furnish the equipment required.

May we have names of such manufacturers? Any information you can give us will be appreciated, as we are interested in finishing small wooden parts.—*R. Co.*

Information given by letter.—*Ed.*

Whirling Flowcoater

We have been reading with a great deal of interest an article entitled, "Whirling Flowcoater Used in Cleaning and Prime Coating Setup", as published in the January 1951 issue of *Industrial Finishing.*

We would like to know where the Spra-Con Co. is located. If you do not have this information, what is the address of The Steelcraft Mfg. Co.?—*P. A. Co.*

Spra-Con Company is located at 1402 N. Western Ave., Chicago 22, Illinois.—*Editor.*

Water-Wash Sludge

I am an industrial paint salesman and several of my customers have asked me where they could dispose of paint sludge from water wash spray booths. I have heard that there

Finco

COMBINATION STAIN - FILLER

New—Different—Unusual

This new combination stain-filler cuts finishing time 33 1/3%. Wipes easy—can't turn gray—won't fade, won't shrink. Investigate today!

FINISHING PRODUCTS CO.
3725 East 13th Street
Indianapolis 1, Indiana
Mfrs. of stains—fillers—sealers—lacquers since 1920

"Wood Graining" ADDS Eye Appeal

American Graining Plates are photographic reproductions of fine woods.

AMERICAN RICHWOOD PRODUCTS CO.
Graining Plate Division
104 E. Mason St., Milwaukee 2, Wis.

are people who buy material like this, but I cannot locate them. Can you tell me if there is anyone in the Middle West who buys sludge of this sort? My customers will gladly submit samples to them for test.—*M. E.*

In a letter we are naming a few concerns that may be interested.—*Editor.*

We Do Flock Finishing

This is just a note to call your attention to the fact that we do flocking—continuous web up to 54-in. in width.

Your reply to C. C. A., headed "Articles About Flock", under Letters from Readers in September issue, page 96, reminded us that perhaps you did not have our name as an over-all processor. We will be much obliged if you will include us along with others when you offer an inquirer a list of over-all flockers.

"There isn't much you can tell Mike about finishing furniture."

SCREEN PROCESS METHODS of REPRODUCTION

This new book by Bert Zahn, is complete, informative and practical and covers all known processes. It will fill the needs of everyone interested in the subject for it tells in text and shows in pictures—what can be done with screen process methods—what is required in equipment and facilities—what the difference is in the various methods—what materials to use and how to prepare them—how to proceed with the various operations from the simple first steps to the finished product. It gives lists of manufacturers who are using these processes as well as lists of products on which they can be used.

Cloth binding, 252 pages, 179 illustrations. Price..... **$3.00**

INDUSTRIAL FINISHING MAGAZINE

1142 N. Meridian St. Indianapolis 4, Ind.

We enjoy your magazine each month. Although you do not publish too much on flocking . . . . the August 1950 story was probably the best treatise on flocking that we have ever read.—*Synthon, Inc.*

Silk Screen Enamel

We are in need of several gallons of baking silk screen enamel and will appreciate your advising us of a source of supply for same, if possible. —*A. & F.*

In a letter we are naming a few concerns that can supply these materials.—*Editor.*

Interested in Flock Elect . . .

In Oct. 1951 issue of this magazine, on pages 94-96, we notice an article pertaining to flocking, "Flock Goes on Electrostatically". We would like to learn the address of International Industrial Developers, Inc., whose name is signed to the article.

We want to get whatever information they have to offer regarding this flocking process. We feel that there might be a good possibility in putting this operation to work on a new item which is still in the designing stages. —*J. S. Corp.*

The firm's address is 1 Moshassuck St., Pawtucket, R. I.—*Editor.*

Lacquer and Shellac Sticks

In a recent issue of this magazine we saw an advertisement by a firm that manufactured lacquer and shellac sticks which they guaranteed would not raise under lacquer when doing a burning-in job. Please send us name of manufacturer.—*W. Furn.*

PITTSBURGH INDUSTRIAL FINISHES

● **No matter what type** of protective coatings you need for your defense orders—Pittsburgh Industrial Finishes serve you best in a number of ways.

● **These famous finishes** do more than faithfully follow government specifications. Often they give you a plus over minimum requirements . . . provide longer service and better performance.

● **Pittsburgh** has the research and technical skill—as well as many years of experience in working with varied industries—to enable it to adapt specification materials that will assure trouble-free application under the production conditions prevailing in your plant.

PITTSBURGH

PITTSBURGH PLATE

for your defense contracts

● **Add to these** advantages Pittsburgh's wide-spread facilities—which make it possible to supply finishes promptly everywhere—and you'll realize why Pittsburgh Industrial Finishes will best serve your defense production needs.

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Industrial Paint Division, Pittsburgh, Pa.
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Pittsburgh maintains a highly trained staff, with years of experience in working with industry, whose specialty is solving unusual finishing problems. Whenever you need help, a phone call, wire or letter will bring a Pittsburgh representative to your office for consultation—without obligation on your part.

Industrial FINISHES
GLASS COMPANY

The Theory and Practice of FINISHING FURNITURE

Part III, Wash Coating, Filling and Sealing

A WASH COAT is a very thin material applied to the wood after bleaching or staining with dye-type stains, or just before filling It serves mainly to prevent discoloration of the wood by oils and resins in the filler. It is used only in conjunction with filler, never on woods that do not require filling. In addition to keeping the color light, it preserves the clarity of the finish, eases wiping of the filler, and aids in sanding the surface smooth just before filling.

The material for a wash coat usually consists of lacquer sealer or shellac at 5% to 10% solids—for example, one part of 15% to 21% solids sealer reduced with two parts of lacquer thinner; or one part of 4-lb. or 4½-lb. cut shellac reduced with five to eight parts of alcohol. Some finishers prefer shellac because the filler seems to wipe off better over it.

A "Must" Over Water Stain; Optional Over NGR

The wash coat is a "must" for use over water stains. It is optional over non-grain-raising stains, but it is generally used on high-grade furniture to preserve the clarity of the finish. It is applied by spraying. Only a very thin application is required. Heavy coats are avoided because of the danger of interfering with proper filling. When dry—after 15 to 30 minutes drying time at room temperature—the wash coat cannot be seen. The wash coated surface is always sanded smooth before filling.

Some times a small amount of NGR stain is added to the wash coat to produce a more even or brilliant color. Such a colored wash coat is sometimes called a "toner."

Some woods — such as walnut, mahogany, oak, ash, chestnut, pecan, prima vera, avodire, and others

—have large pores that require filling before the final coats are applied. The old method was to apply many coats of linseed oil or varnish, rubbing off the excess at each application until the pores were filled flush with the surface. Sometimes shellac or other resin solutions were used, the finisher carefully sanding down each coat when dry. The process in each case was laborious and expensive. It would be prohibitive in factories in these days.

What Fillers Are, and What They're For

Modern paste wood fillers are now used almost exclusively in production furniture finishing. They are not needed on close grained woods like maple and poplar, but they are used on such woods as mahogany, ash and oak. Sometimes they are used on the exposed end grain of any wood to prevent so much topcoat material from being absorbed. They may be applied on the end grain under enamels to give perfect "hold-out" with one or two coats.

Paste wood filler consists of inert filling pigments such as silica and asbestine, along with color pigments such as umbers, siennas and others, properly dispersed in a vehicle consisting of drying oils, resins, driers and thinners. The material generally comes as a heavy paste weighing about 14-lbs. per gallon. For use, it is reduced with VM&P naphtha, mineral spirits, lead-free gasoline, xylol, or turpentine. For spraying, the filler is reduced in the proportion of 6 to 10-lbs. of paste filler to a gallon of reducer; for brushing, the ratio is usually 10 to 14-lbs. of paste filler to each gallon of reducer. VM&P naphtha is the preferred reducer in production furniture finishing. If the filler sets too fast for satisfactory wiping in hot weather, a portion of the naphtha should be replaced with mineral spirits, which evaporate slowly.

Normal air-drying time for an application of filler is about 15 hours, although some fast-drying fillers may be safely coated after having dried at room temperature for only four to six hours. A force-drying time one hour at 130°-140° F. is satisfactory for most fillers.

[*To next page*]

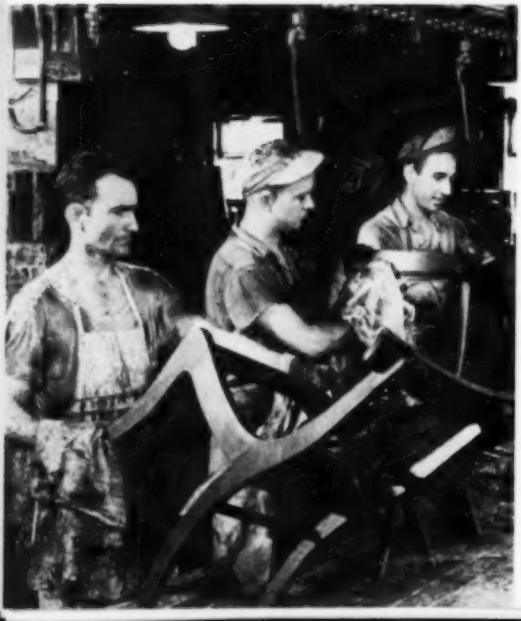
Third of a series of authoritative articles that take up practical reasons for finishing new wood furniture and explain details of various factory production systems—from the simple inexpensive jobs on up through medium priced and high grade types of finishing —to produce bleached, natural and color tinted blonds and various medium and dark neutral wood tones. It is a modernized revision of a series of articles that were previously published in this magazine.

Filler, Preparation, Spraying, Padding, Wiping, Drying

Some new fillers may be coated in from 10 to 30 minutes after wiping. Special reducers made by the filler supplier may be used, although some fillers may be reduced with equal portions of xylol and VM&P naphtha, and others with ordinary VM&P naphtha. These fillers are especially adapted for conveyor finishing, since no drying oven is required. Even if conveyors are not used, the savings in space and time in the finishing department make fast drying fillers worth while.

Fillers are generally sprayed at 30-lbs. to 50-lbs. air pressure. They should be sprayed from pressure tanks equipped with agitators to prevent the heavy pigments from settling. Some finishers pad the applied filler while it is still wet; they use felt pads on a reciprocating rubbing or sanding machine.

Wiping off excess stain-filler from chairs.



A heavy, wet coat is applied. When the surface has lost its gloss and is uniformly flat (in from two to ten minutes) the filler is ready to wipe. Experienced finishers may use rags, cotton waste, jute, tow or other fibrous material for wiping. They always wipe across the grain using straight strokes, or they may go over the entire surface in circular strokes describing small circles only three or four inches in diameter. Then they use a clean surface of their hand rubbing pad to clean up, first across the grain and then in light strokes with the grain.

When finishing woods that have large open pores, the filling operation is the most important one in the finishing system. If the filling is not properly done the whole system will suffer, and it will be next to impossible to produce a satisfactory finish. Filler rubbers should be carefully trained and supervised. Many foreman finishers in furniture plants make it a practice to spend considerable time supervising the filler crew.

Combination Filler Stains; When, Where, Why and How

Where deep colors are required, such as 18th Century mahogany, the filler may be formulated with extra large amounts of color pigments so that the separate staining operation may be dispensed with. To retain maximum clarity, oil dyes may be incorporated in the filler. These oil dyes are not light-fast, however, and may give rise to "bleeding". Both types are reduced with conventional reducers.

(Continued on page 84)

A Safe Sign to Follow

• HERE AT RELIANCE a thorough analysis of all factors involved in any finishing problem is a prerequisite to the formulation of the proper material to be used. Reliance laboratories in cooperation with field engineers are at your service to develop "tailor-made" finishes to best meet your requirements. An inquiry involves no obligation—will you call on us to help you?

Spraying lacquer sealer in chair factory.

The best combination filler-stain is a new synthetic type, containing the most light-fast acid and direct dyes. It requires a special reducer, and may be coated 30 minutes after it is wiped. While the filler-stain may not be versatile enough for the finest furniture, it is especially suited to radio cabinets, novelty furniture, etc. No preliminary staining (except sap staining), wash coating, or sanding are required, the material being applied directly to the raw wood.

These filler-stains are supplied in paste form, or in ready-to-use solution. The paste material is reduced in the same manner as regular fillers. Both types are wiped just like ordinary fillers. Drying time varies with the type of filler used. If the filler is reduced with naphtha or mineral spirits, it should air dry in four to 15 hours. If the filler-stain is of the 30-minute type, it should be reduced with a special reducer supplied by the manufacturer of the filler, and should be coated 30 minutes after wiping.

Sealer Coats; Three Types; Lacquer Sealers; Drying

Three types of material are available for use as sealer coats over stained or filled wood surfaces. These three are lacquer sealer, shellac and varnish sealer.

Lacquer sealer is extensively used as the priming coat in the production finishing of furniture. This sealer consists of nitro cellulose (or other cellulose esters or ethers), resins and plasticizers dispersed in a suitable solvent blend, and containing sanding agents (pigments) such as zinc and calcium stearates. The actual solid (non-volatile or film-forming materials) content is in the range of 12% to 21%; that is, 100-lbs. of sealer will contain from 12 to 21-lbs. of solid matter.

Lacquer sealers are applied by dipping or spraying (usually) at 40 to 50-lbs. air pressure. They can be supplied ready for use, or they may require reducing with lacquer thinner. They air-dry to sand in from 30 minutes to two hours. The user is cautioned to investigate and perhaps make tests for results before selecting the fastest-drying, easiest-sanding sealers. Some of these sealers contain too much "sanding agent", causing the final finish to be brittle and to lack adhesion. [*Cont'd on page 86*]

HOT *Lacquer* NEWS

PUBLISHED PERIODICALLY BY HERCULES POWDER COMPANY IN THE INTERESTS OF BETTER FINISHES AND FINISHING

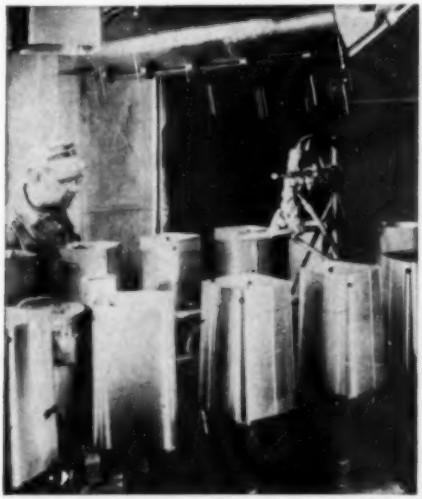
Hot-Spray Lacquer at Air-Way Speeds Normal Drying Cycle

Guesswork Eliminated on Cold Rainy Days

Chief Engineer Boyd of Air-Way Electric Appliance Corporation, Toledo, Ohio, is enthusiastic about the improved results of hot-spray lacquer over the cold lacquer finish formerly used.

One coat of hot lacquer is now sprayed on unprimed aluminum. Then the splatter finish is effected by applying a splatter of solvent. The vacuum cleaner body then passes through a twenty-foot bank of lights and emerges tack-free, *regardless of weather.* Formerly, when cold lacquer was used, the finishing foreman had difficulty on cold, damp days because special thinners had to be formulated so that the coated vacuum cleaner would be tack-free by the end of its normal drying period.

Mr. Boyd adds that Air-Way now gets better "mileage" than formerly for same production schedule, which he attributes in part to lower atomization pressure and resultant less overspray.



Air-Way vacuum cleaner bodies dry uniformly, regardless of weather, now hot-spray lacquer process is used.

NEW MILITARY LACQUER SPEC.

A new military specification for lacquer is now issued and official. Identified as "Military Specification MIL-L-11195 (ORD) Lacquer, Lustreless, Hot Spray (For Ammunition)." Hercules will send you full information on hot lacquer, types of heating equipment available, and the performance record of hot lacquer in many industries.

HERCULES POWDER COMPANY
Cellulose Products Department
928 Market Street, Wilmington, Delaware

CL51-16

In conveyor operations it is better to force dry the sealer for 10 to 20 minutes at 110° to 120° F., because thereby most of the solvents are removed and the minimum of sanding agent is required. A schedule of ten minutes for flashing (air drying), 20 minutes force-drying and ten minutes cooling before sanding is far better than even an hour of straight air-drying, because a tougher more adhesive sealer can be used on a force-drying schedule.

Sanding the Sealer Coat; What Problems Arise

The coat of lacquer sealer is lightly dry sanded by hand, or with a light power sander, using No. 5/0 or 7/0 sandpaper. The dust produced by sanding should be removed before recoating. It is general practice to simply blow the sanded surface clean with an air gun, or with an air gun attached to a brush. Going over the surface with a tack rag will insure a cleaner and more satisfactory job.

Because the use of some lacquer sealers tends to cut down the toughness and adhesion of the finish, a number of finishers have tried to omit the sealer coat. The lacquer or varnish is applied directly over the filler. However, the first coat must be sanded smooth when it is dry. This cannot be done by dry sanding because the sandpaper will become clogged and it will scratch the surface. Wet sanding with water or mineral spirits is generally satisfactory.

Another solution of the problem is to use a lacquer at 5% solids or less. It dries to sand in 30 minutes and sands easily. Such a sealer largely penetrates into the wood, leaving no surface film. For this reason care must be exercised when sanding to avoid cutting through the stain.

Special penetrating sealers, based on polyvinyl butyral and other vinyl compounds, have been developed to provide the utmost in adhesion without sacrificing easy sanding

Lightly sanding the sealer coat on chairs—after the chairs have come through drying oven.

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qualities. Although not yet widely used, they do help to produce a tough scratch-resistant finish.

Shellac as a Sealer Coat; "Mixing Lacquer"; Varnish

Shellac, which still finds use as a sealer on furniture, comes in three forms—orange, white (bleached) and dewaxed (clear pale solution). Orange shellac is used where the slight discoloration is not objectionable. White shellac is used where the utmost paleness and clarity are necessary. The resin concentration is given in terms of "cut" — that is, the number of pounds of dry shellac dissolved in a gallon of alcohol. Four or 4½-lb. cuts are the most widely used.

For use as a sealer on furniture, shellac (4 to 4½-lb. cut) is reduced with an equal volume of denatured alcohol. It is applied by spraying, although it can be brushed successfully. After being allowed to dry for one to four hours the shellac film is sanded lightly with No. 5/0 or 6/0 sandpaper. Do not apply a heavy coat; use only enough to produce a thin, smooth film. Sometimes mixing lacquer (nitrocellulose solution) is mixed with shellac to improve the drying, flow and toughness. A suitable mixture is two parts of shellac, one part of mixing lacquer, and two or three parts of alcohol—all measured by volume.

Good sealers of the varnish type may be made for use under varnishes. They are usually applied at 30% to 35% solids, and allowed to air-dry overnight or the coating can be force-dried for one to two hours at 150° F. Then the sealer coat is dry-sanded smooth, since it contains sanding or lubricating agents that make this possible. Varnish sealers give excellent toughness and adhesion under varnishes and they are not expensive.

Editor's Note: Part IV of this article to appear next month will include Lacquers, Varnishes and Enamels.

M. J. Hiler Becomes President of Commonwealth Engineering Co.

Malvern J. Hiler has been appointed President of The Commonwealth Engineering Company of Ohio, Dayton, Ohio, according to an announcement by the Board of Directors of the company.

Malvern J. Hiler

He has served for the last three years as Executive Vice-President. Mr. Hiler is a graduate of Michigan State Normal College and the University of Michigan and has been successively a Research Chemist with Sharples Solvents Co., District Sales Manager of the Sharples Chemicals, Inc., and later Director of Research and Development, Stepan Chemical Co., Chicago, Illinois. He is a fellow of the American Institute of Chemists.

Pyrene Names Eckelmann V.P.

Luis E. Eckelman, manager of the Metal Finishing Division, has been elected vice president of the Pyrene Mfg. Co., Newark, N. J. He will be in general charge of development work as well as of metal finishing.

In April 1916 Mr. Eckelman, while still a student at the Polytechnic Institute of Brooklyn, New York, joined Pyrene to do part time research, and following his graduation in June of that year, he became a full time member of the staff.

Mr. Eckelman is recognized nationally as an expert in electro-chemical problems, and under his guidance the Metal Finishing Division has established a reputation second to none in its highly specialized field.

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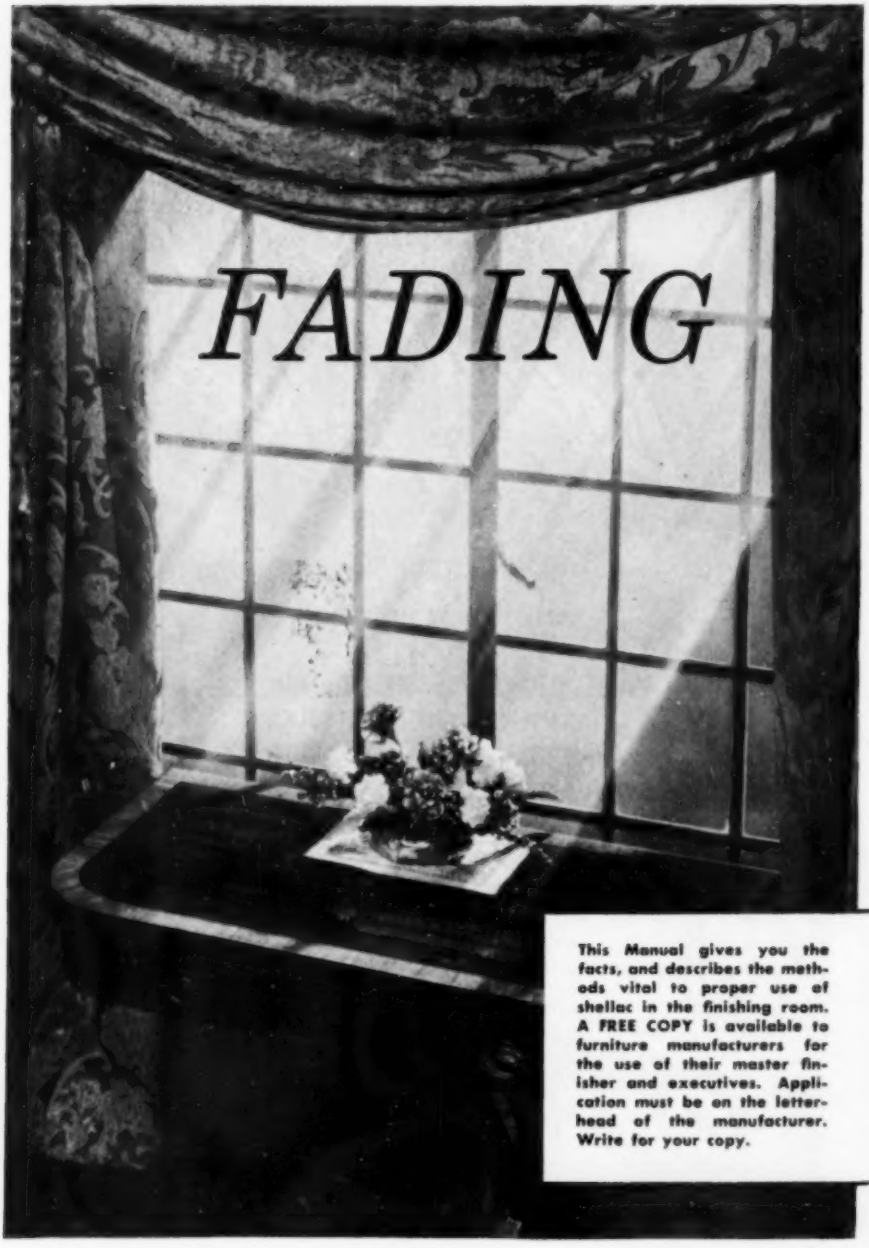
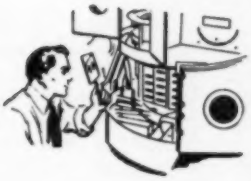

FADING
This Manual gives you the facts, and describes the methods vital to proper use of shellac in the finishing room. A FREE COPY is available to furniture manufacturers for the use of their master finisher and executives. Application must be on the letterhead of the manufacturer. Write for your copy.

• • • *is best resisted by finishes employing* **SHELLAC**



You can prove this quickly for yourself, if experience hasn't already taught you. Have some panels of various woods carefully finished with different materials that are commonly used. Let some of the finishes incorporate shellac as an undercoat, and others not. Then send the panels to a qualified laboratory, and have them exposed to the ultra-violet light of a typical fadeometer.

We did just this. We picked 28 panels at random, from side panels, drawer fronts and tops of standard furniture being produced in a large factory. These were of poplar, mahogany, oak and maple. Finished, *with materials in everyday use at the factory,* they were sent to a fully qualified laboratory and exposed to ultra-violet light in a standard fadeometer.

Readings were taken at 103, 151 and 200 hours, and results proved *conclusively* that the panels on which shellac had been applied as an undercoat showed *far greater resistance to fading.*

In the case of non-fugitive stains, indeed, the bugaboo of "fading" is virtually eliminated, since shellac finishes do not permit non-fugitive stains to become fugitive due to chemical changes caused by the cover coat.

Increased resistance to fading not only extends the life of furniture but *provides an extra, important selling point.* So use shellac in your finishes—it's the medium which has been shown to produce greater resistance to fading than any other finishing material.

shellac INFORMATION BUREAU

of The American Bleached Shellac Manufacturers Association, Inc., 65 Pine Street, New York 5, N. Y.

Roller Coat Screen Wire?

We read with deep interest the article on Roller Coating in August 1951 issue of *Industrial Finishing*.

There is a large potential business in our section for the flock coating of radio grilles and the thought occurred to us that perhaps a roller coater could be employed to apply the adhesive to the one side of ⅛-in. hardware cloth, as well as to ordinary window screening. Are we correct in this?

When you have an opportunity, will you please drop us a line and give us some information on this matter? Also the addresses of the firms you credit for their cooperation in preparing the article.—S. M. N.

I have visited several plants where radio grilles made of bronze screen wire are flocked. In every case the adhesive was sprayed down on the screen panels as they were stacked flat on a work bench. The first or top screen, the second and perhaps the third required more spraying than succeeding screens as these latter received the overspray of adhesive, and the further down screens were in the stack, the greater the build-up of adhesive.

As to applying adhesive by roller coating, I do not know if this could be done successfully. Perhaps on the ⅛-in. hardware cloth there would be no "webbing" or "bridging" of the adhesive, but certainly on screen wire I would think that the adhesive would form a web that would practically close the open mesh. Of course, arrangements could be made to blow the webs out with jets of compressed air.

When roller coating either hardware cloth or screen wire it would be impossible to keep the adhesive off the bottom feed roller—that is if you planned to coat only one side of the screen.

Another thing to keep in mind about roller coating is that the sheets of wire mesh must be kept flat and smooth, especially in the case of hardware cloth. Any upturned or bent wire edges would have a tendency to damage the composition roller. Of course, these rollers can be replaced when they become pock-marked due to rough usage, but this would be expensive, and if many of the wire panels were bent or had rough edges it would also be expensive to have a workman straighten them before roller coating.

In a letter I am giving you the names and addresses of several manufacturers of roller coaters, some of them makers of machines especially adapted to production coating of

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A booklet titled "ALL ABOUT US" will be sent if requested on your letterhead.

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metal signs and thin sheet stock. Perhaps some of these concerns have a laboratory roller coater set up for experimental work, or if not, perhaps they could arrange with one of their customers fairly close to your city to allow you to run a few sample screens to determine whether or not this type of application is practical.—*P. C. Bardin.*

Mildew Trouble

We have a finishing problem that is giving us a lot of trouble. We manufacture matchstick bamboo draw drapes and shades. This material is imported from Japan in rolls, unfinished. We are having trouble with the material mildewing, even after it has had two spray coats of lacquer.

As a temporary method, we are dipping this material in a 1/500 solution of bichloride of mercury. We have not used this process long enough to know definitely whether or not it is doing the job.

There must be some chemical that could be used for destroying the mildew spores—one that would be less expensive and that has been proved to be effective.

Any information that you may be able to give us on this subject will be greatly appreciated. — *V. Mfg. Co. (Florida).*

There is a Test Service Laboratory in your state that advertises in this magazine every month. They could make tests which would quickly show the effectiveness of your present treatment or any treatment you may elect to try in the future.

In a letter we are sending you the names and addresses of a few concerns that offer materials which are claimed to prevent, kill or counteract mildew.—*Editor.*

Finish for Bamboo

I manufacture a line of fishing rods, mostly made up from the Calcutta bamboo. What I need is a good lacquer or varnish that will adhere to this bamboo—one that can be applied without rubbing between coats, as the nylon windings are nearly always harmed in the process. You realize the beating a fishing rod must take, and the need for a finish that will resist mars and scratches to the utmost. I find that varnish applied directly to the bamboo is not satisfactory, as it seems to chip easily. This bamboo is hard and smooth on the outside and can be polished without any finish at all, consequently it is difficult to find a finish that will stick to it.—*N.D.R.*

I suggest that you send samples of your bamboo to a manufacturer of industrial finishes and request that a special lacquer be developed for it.—*H. W.*

It will be necessary to lightly etch or roughen the glossy surface of the bamboo before you apply any finish. It is this natural hard glaze or gloss

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Many concerns use "Liquafill Sizing"
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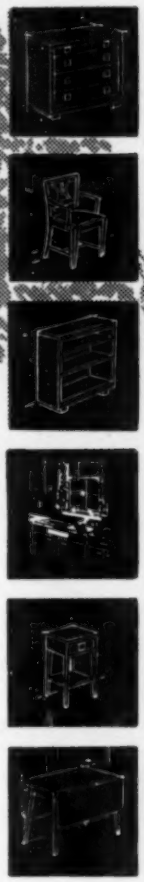
PA 2063

(Synthetic Undercoat)



Opens new roads for using fir and other marginal woods!

Excellent filling and holdout properties are two of the advantages which make United's PA 2063, synthetic undercoat, ideal for use on fir and other open grained marginal woods.

When coated with PA 2063 and then covered with a synthetic enamel or other top coat, these woods give the appearance of, and can be used as gum woods.

PA 2063 is easily sanded, dries quickly, and requires only one coat. It holds down the wood grain while preventing a glossy top coat from sinking in.

A generous working sample of PA 2063 is yours for the asking. Get yours today.

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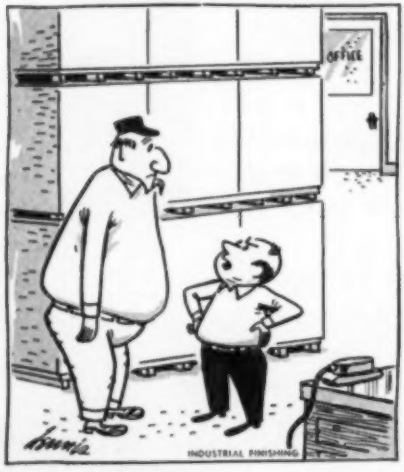
PHILADELPHIA 19, PA.

that makes the finish chip off; it will be necessary to remove the gloss before applying varnish or synthetic enamel.

To lightly etch the surface of the bamboo I suggest sandblasting, using a fine grade of sand. This could be accomplished by rotating each rod like a spindle in a lathe . . . rigging up a series of power driven [lathe] heads, the number of heads depending upon the volume of production. These rotating heads would be chain driven by a low horsepower motor. Each drive head would be fitted with a rubber washer of suitable diameter to hold the butt end of the finishing rod with sufficient firmness so that the rod would rotate.

Due to the length of the bamboo rods, you will need one or more supports made in a U shape so that the entire length of the rod will be held in horizontal position. The chain drive should be on the outside of the enclosure with an extended spindle to hold the rubber washer. As the rods revolve, blasting sand would be blown against them under pressure from several nozzles; the number of nozzles would depend upon the length of the rods.

Or, the rods might be arranged to be fed lengthwise at a uniform speed through suitable blasts of fine abrasive. After blast-etching, the rods should be cleaned and wiped with tack rags; then finished in the usual manner.—*P. B. C.*



"After this, Murphy, when you have a gripe, don't try to go over my head!"

Flock Coating Designs; Screen Printing

We manufacture children's knitted outerwear, and have begun screen printing some of the garments here in our mill. We are interested in flocking in conjunction with screen printing and wish you would please send us any descriptive literature that you have available concerning this process, or direct us to sources of information. —*A.M.C.*

We are looking for information as to how to go about doing flocking on a screen process. In other words, we wish to process small pieces of leather with various small designs of flocking—*H.N.Co.*

From what is stated in your inquiry I assume that you are familiar with screen process stencils and the squeegee with which process paint is pulled across the screen stencil. Certain areas of the screen are blocked out so that no paint can come through. The desired letters, numbers or designs are left open so process paint will come through when the paint is pulled across the screen with the squeegee.

In most cases the surface being printed, painted or coated is flat; if it is a flexible material, such as cloth or leather, then the area that is to be coated is laid out flat and held firm

"THEM REVENOORS SHORE BEEN NICE SINCE PAW CONVERTED TO PAINT THINNER FOR THEM *VEDOC* BOYS"

It wasn't so long ago that the raw material situation was just about this tough. But during that period of shortages, there was no change in the high quality of DEFENSE PAINT that came from Ferro's shipping docks.

Whether your orders were for gallons or drums, the formulation that made up your particular order never varied. You still got the best possible government specification finish, for your particular finishing operation.

When you bid on Defense Orders calling for specification finishes, remember the experience and production facilities that Ferro can offer, to make your finishing job the most efficient part of your production line.

FERRO CORPORATION

LIQUID PLASTICS DIVISION

4150 East 56th Street • Cleveland 5, Ohio

Vedoc

over a backing board or something suitable to make possible the clean accurate stencil printing with a squeegee handled in the usual way.

Now, you plan to apply flock instead of paint to garments or pieces of fabric, leather, etc. Flock, of course, consists of short cut fibers of cotton, rayon, wool or other material. Naturally you must use an adhesive to make these flock fibers stick to the cloth or leather surfaces. Many different adhesives are available for this purpose. In a letter we are naming some of the manufacturers of flock adhesives.

Accordingly you apply the adhesive, instead of process paint, putting it on in certain designs, as desired, with the screen stencil and squeegee. The adhesive can be clear or tinted or colored; a colored or tinted adhesive is usually preferred because, after each application, the operator can readily see if the desired designs, numbers or letters are being printed properly and in exactly the right places.

Another reason for using a colored adhesive is to match the color of the flock to be applied over it. The final job will look better, and if or when some of the flock fibers pull out or are rubbed off, the damaged place will not show up as much as if an under surface of contrasting color were exposed.

The spread adhesive must be slow drying to give time for your flock coating to be applied. Flock can be applied to the adhesive coated surfaces by spraying it with a flock gun or by causing it to fall like snow from a sifter or vibrating screen. Often the surfaces being coated with flock are caused to vibrate rapidly as flock fibers are "rained" down from above. One simple means of vibrating is to revolve one or more square shafts or beater bars under but in contact with a level-stretched sheet of canvas. This rapid vibration of the work also produces static electricity which assists in setting the flock fibers on end as they drive themselves into the spread adhesive.

Next, the excess flock (that which is not stuck to adhesive) is removed either by shaking it off by force and gravity or by careful use of some suitable suction device or arrangement. Then the adhesive coating (with flock adhered to it) may be rapidly and safely dried by putting the items through a clean mild drying oven.

Exact details in reference to equipment, materials, supplies and working plans for such a setup can be worked out with the help of an engineer or experienced practical man who is thoroughly familiar with this type of work and who can come to your plant to find out exactly what conditions you have and what your requirements are.—*Editor.*

An example of the attractive modernistic design of some new industrial plants, including small ones, is this new Benchmaster Mfg. Co. plant at Gardena, Calif., near Los Angeles.

UNDERCOVER AGENT!

Both steel boxes were top-coated with the same high-grade enamel; both had been cleaned thoroughly before finishing . . . but one had been primed with STANTITE. Then both were subjected to a salt spray under laboratory test conditions: after 93 hours the first box showed 75% rust failure—but the STANTITE-primed box showed no film failure after 500 hours!

Besides preventing corrosion and rust creep STANTITE Spraying Primer and STANTITE Clear Primer (for dipping) provide excellent adhesion to all types of surfaces . . . may be used with most types of top coats. Created for application under air-dried or baked finishes, STANTITE dries rapidly, is unimpaired by any baking schedules.

Find out now what STANTITE can do for your product . . . for complete information write today to the Stanley Chemical Company, 41 Berlin St., East Berlin, Conn.

STANLEY

Industrial Coatings

STANLEY CHEMICAL

LACQUERS — SYNTHETICS JAPANS ENAMELS

YOUNG BROTHERS
baking and drying **OVENS**
Standard and specially designed ovens built to produce the finest results in PAINT and VARNISH BAKING • LACQUER DRYING • RUBBER CURING • METAL DECORATING and other industrial finishing processes. Batch or Continuous Types for any fuel. Write for Bulletin 3.
YOUNG BROTHERS CO.
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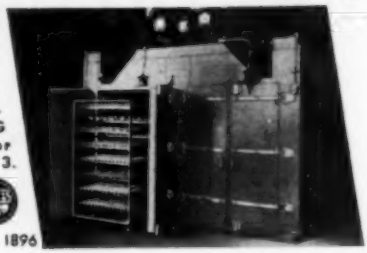
Estab. 1896



Write for Catalog of
Paint Testing Apparatus
GARDNER LABORATORY
Bethesda 14, Md.

Finishing Italian Reed

I have taken a job of refinishing six dining chair seats made of genuine imported Italian reed. They are finished with a walnut tinted clear finish which is chipping and flaking badly, leaving the reed white.

Could you recommend a correct procedure and also a finish flexible enough to stick? Will a regular clear leather lacquer do the job?—*C.N.W.*

I believe that the best way to handle this problem is to apply non-grain-raising stain or water stain directly to the reed by spraying. Follow this with about three coats of a flexible leather lacquer. Even if the lacquer should chip off eventually, the reed, being stained, will not show white.—*W. H.*

I have taken up this matter with several furniture manufacturers and finally called on a very old and reputable refinishing firm that also makes reproductions. They are the only ones who are familiar with Italian reed. Here is their suggestion:

"Remove all of the old finish and wash thoroughly with acetone; then dry. Next, sandblast the reed only, as this particular type of reed has a high hard gloss that no finishing material will penetrate. The wood parts of the chairs should be protected with masking tape to prevent any of the blasting sand from striking the wood and roughening it.

"A very fine grade of sand should be used in the sandblasting operation, and all of the gloss should be removed from the reed. In other words, removal of the gloss must be uniform. If any gloss remains in spots, even the leather lacquer will chip off in those areas.

"Next, clean the surfaces with a compressed air gun. Apply a good grade of tinted leather lacquer, the color to conform with the wood parts of the chairs."—*P. C. Bardin.*

Furniture Show January 7-19

Spurred on by a general pick-up in retail sales during the Fall months, the home furnishings industry is readying itself for an all-out assault on the consumers' eye and pocketbook during the first six months of 1952. The drive will get under way with the opening of the 1952 Winter Market at the American Furniture Mart, 666 Lake Shore Drive, Chicago, Ill., beginning on January 7 and running for two weeks.

Your Trade Association Merits Your Support

I WAS IN THE OFFICE of a small furniture factory when the owner received a telephone call. From the one sided conversation I could gain that it was a follow-up call by a representative of a trade association, in an effort to obtain membership of the manufacturer. After the usual preliminaries he asked his caller, "Well, what do I get out of it? What good will it do for me?" Then a long pause; finally he said, "Give me a little more time to think it over."

He hung up and remarked to me that they were trying to get him to join the association but he doubted if he would. He still was unconvinced that membership would benefit him. I felt that he was wrong, but as a salesman I could hardly risk trying to convince him. Instead I picked up his morning newspaper, turned to one of the inside pages, and asked him if he had read that particular news item.

Then he read where the National Furniture Traffic Conference, made up of four good trade associations and representing some 5400 furniture manufacturers and 27,000 retailers, had petitioned the Interstate Commerce Commission for a 60-day delay in cancelling exception ratings on less-than-carload furniture shipments on official territory railroads. It is estimated that cancellation of exception ratings will add 74 million dollars annually to the shipping costs of the furniture industry. The object of

A NEW
AIR-POWERED
DETROIT *Easy* FINISHER

The new Model AF, a fitting companion to the Easy *Electric* Finisher line—a full size, single pad, production air sander! Its genuine *reciprocating* action (*not* orbital) produces the perfect finish without hand clean-up of swirls, etchings or other objectionable abrasive scratches. A water connection for wet work, pads for flat or curved work, make the new Easy Model AF ideal to do your job better . . .

- **STRATE-LINE ACTION** works up to right angles, no abrasive scratches, no hand clean-up.
- **SINGLE PAD,** full size, proven most convenient, uses ⅓ standard sheet sandpaper, 3⅔" x 9"
- **COMFORTABLE GRIP,** feather-touch palm-pressure start-stop control; front knob for extra convenience.
- **LIGHT WEIGHT**—under 6 pounds—but full sized, not a miniature.
- **SMOOTH,** vibrationless mechanism for efficiency and ease of operation.
- **ALL-NEW QUICK GRIP** abrasive holder for instant attaching of up to 12 abrasive sheets.
- **PADS OF FELT,** rubber or composition for all sanding, rubbing and polishing jobs.

Write for latest literature and name of your nearest Easy dealer.

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SPECIALIZATION
Saves You Money
ON
THINNERS

We make nothing but Thinners—blended Solvents, and nothing else. Naturally, we buy large quantities of solvents—at lowest prices. *Specialization* saves us money on overhead too—and these savings we pass on to you, our customers.

We know how to formulate Thinners to your requirements—been doing it for 26 years. We've satisfied big and little customers . . . let us show you how a Lacquer Thinner *SPECIALIST* can supply you with the *right* Thinner . . . and still save you money.

Just fill out form below and mail today. We'll work out a Thinner *especially for you*, and send a sample. Think we can do it for 85¢ or less a gallon too!

POTTER PAINT CO., INC.
CORTLAND, N. Y.
THINNER SPECIALISTS

The product we make is:_____
We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other_____
We use Lacquer Thinner on:
☐ Metal ☐ Wood ☐ Other_____
We want it to dry:
☐ Fast ☐ Slow ☐ Medium

Name_____
Address_____
City_____ Zone____State_____

the delay is to prepare the case and obtain a hearing before the full Commision of 11 members.

Later he joined the association and I predict that he will become an active member, not just one who tags along on the other fellow's work. This man finally came to a realization that strength can only be acquired through unity. In business, as in life itself, one gets out only as much as one puts in.—*T. M.*

Earl Briggs Becomes Engineer for Sharpe Mfg. Co.

The Sharpe Mfg. Co. (paint spraying equipment), Los Angeles, Calif., announces the appointment of Mr. Earl Briggs as plant manager and head engineer of the company. Mr. Briggs' background in the air compressor and paint spray equipment field makes him particularly well qualified for this position. His services include 11 years with two prominent manufacturers of spray painting equipment, as a sales engineer.

Mr. Briggs is a graduate of the University of Michigan where he received his B. S. degree in Mechanical Engineering.

The Sharpe Mfg. Co. will continue to develop and expand its line of equipment under Mr. Briggs' guidance.

This precision mask is used to mark shell cases for identification. Note that certain sections of the mask are interchangeable, for example, 50/50. This number section may be removed and a different number inserted. Turn clips hold in position the removable plates which have offset or step borders for flush mounting.

BARRETT CENTRIFUGALS

The Barrett Centrifugal Enameler

FILWHIRL ENAMELERS—For Coating, Japanning, Enameling—Articles.

TYPHOON WASHERS — For Washing Metal Parts, Forms, etc.

CYCLONE DRYERS—For Drying Small Metal Parts, Forms, etc.

WHIZO GALVANIZER—For Throwing Off Excess Molten Metal. Used for Tinning or Galvanizing Small Articles.

DIPSPIN RUSTPROOF — Transparent Protector, Oiling and Slushing.

HYDROSTATIC IMPREGNATORS—For Processing Wire Coils, Paper Tubes, Fabric, etc.

OIL EXTRACTORS—Oil from Chips and Parts —Forms, etc. Liquids from Solids.

THE LEON J. BARRETT COMPANY

Designers and Builders of Centrifugal Machinery

1703 GRAFTON ROAD WORCESTER 1, MASS.

Patching Finishes

SOMETIMES I hear remarks to the effect that "finish patching is too expensive to consider in this era of high wages." Don't you, as finishing foreman (or his boss) start thinking along this line! Every mistake that can be rectified by a skillful patcher means material saved, labor saved and production increased.

The only way patching can be considered expensive is when patchers devote most of their time to correcting the mistakes of others. Had these mistakes not been made then the need for patchers would be eliminated.

Problems of bad handling, poor and careless workmanship, and poor material have always existed and probably always will, so don't make excuses for the lack of patching due to the added expense—and don't use the old stock excuse, "there are no patchers available". There have never been enough good furniture finish patchers to meet the demand.

To supply your demand for patchers, select those of your present personnel who are best adapted for this kind of work, and train them. Use all information and all training help that is available to you and you will see surprising dividends in a remarkably short time.—*H. Hardesty.*

Iridescol Flakes

An iridescent pigment for incorporation in plastics or for flock application.

Pound Sample.....$2.50, postpaid

Iridescent Pigment Corporation of America

P. O. Box 1605

WILMINGTON, DELAWARE

Converting to war work?

TO SAVE ON:

—Cost

—Labor

—Floor Space

—Drier Size (if used)

—Heat Use

—Conveyor Length

Investigate:

The DeBurgh Industrial Conveyor. Same efficiency that has made the DeBurgh Finishing System standard equipment of many of the most progressive furniture manufacturers.

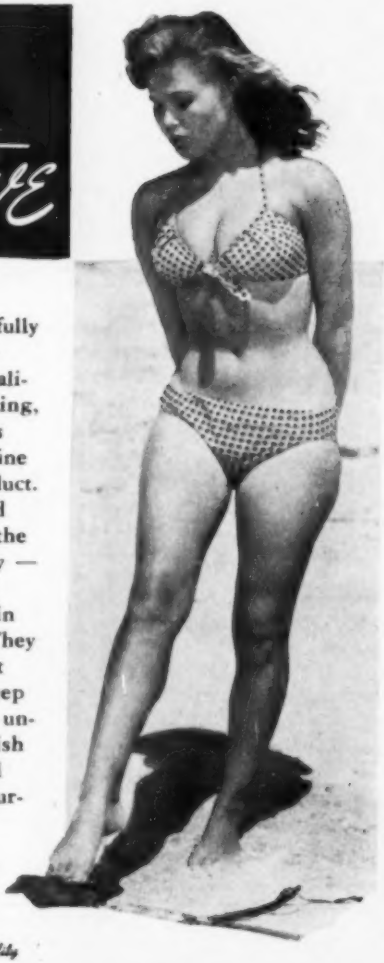
DeBURGH CONVEYORS

Patented and Patents Pending

For Assembly, Finishing and Upholstery

1741 K St., N. W., Washington 6, D. C.

Attractive



Distinctive finishes — skillfully prepared in our Creative Studio — have attracting qualities, too! They are eye-catching, sales-motivating coatings which subtly enhance the fine lines and design of any product. Our capable, highly-trained artists — men who realize the importance of individuality — have the know-how and experience so necessary in developing such finishes. They are never satisfied with "just about perfect" . . . they keep working on an assignment until they have conceived a finish that is destined to do a real sales-winning job. Avail yourself of their creative abilities.

No Tampering with Quality

ROCKFORD VARNISH *Company*

ROCKFORD ILLINOIS

Manufacturers of Protective and Decorative Coatings

New Solvent-Vapor Degreaser Has Many Improvements

A completely redesigned and improved model of a Detrex hand-operated, solvent-vapor degreaser, is announced by Detrex Corp., Detroit 32, Michigan.

The production cleaning machines included in this series, identified as VS-800, make use of non-inflammable chlorinated hydrocarbon solvents, either trichlorethylene or perchlorethylene, for the complete and high-speed removal of oil and grease from all kinds of metal products. The usual cycle of operation is vapor cleaning, then flooding clean solvent over the work with a hand held spray lance, followed by the usual pure vapor cleaning phase which is characteristic of solvent-vapor degreasing.

A minimum of floor space, lower working height, and an efficient new style solvent condenser are some of the improvements featured. As the clean-solvent storage tank is built integral with the main machine body, the new design has made it possible for the inside work space to be cleared of all projections, including the solvent collecting trough, condensing coils, and vapor level control bulb; thus providing unobstructed entrance for work being cleaned. Easy operation from either side of the machine is also made possible because of the relocation of the solvent storage space.

Further refinements include: simplified piping and water separator arrangement, large access door for easy cleaning of the solvent storage section, and a re-designed condenser coil that provides a greater volume of distillate for slushing. A standard heating-door opening is provided to accommodate the interchange of heating means, consisting of steam coils, gas burners or electric elements.

A new, improved type of corrosion-resistant coating, called FF-1, is applied to all interior surfaces of the VS-800 model degreasers. In addition to 21 standard sizes in which this model is available, "specials" will be built to fit individual requirements.

New Design, Detrex Solvent-Vapor Degreaser.

Flame-Sprayed Stop-Offs for Plating

A new and extremely economical method of masking portions of metal articles to be plated has been developed by the American Agile Corporation, Plastics Division, 5806 Hough Ave., Cleveland, Ohio.

Instead of covering the sections which are not to be plated by the conventional methods such as lacquering or tape masking, a completely

non-porous and chemical inert coating of Polyethylene (about 1/16" to 3/32" thick) is flame-sprayed onto the section to be masked. To allow the initial removal of the stop-off mask for reapplication to subsequent parts, the section to be masked is first covered with a thin coating of a special mold release agent.

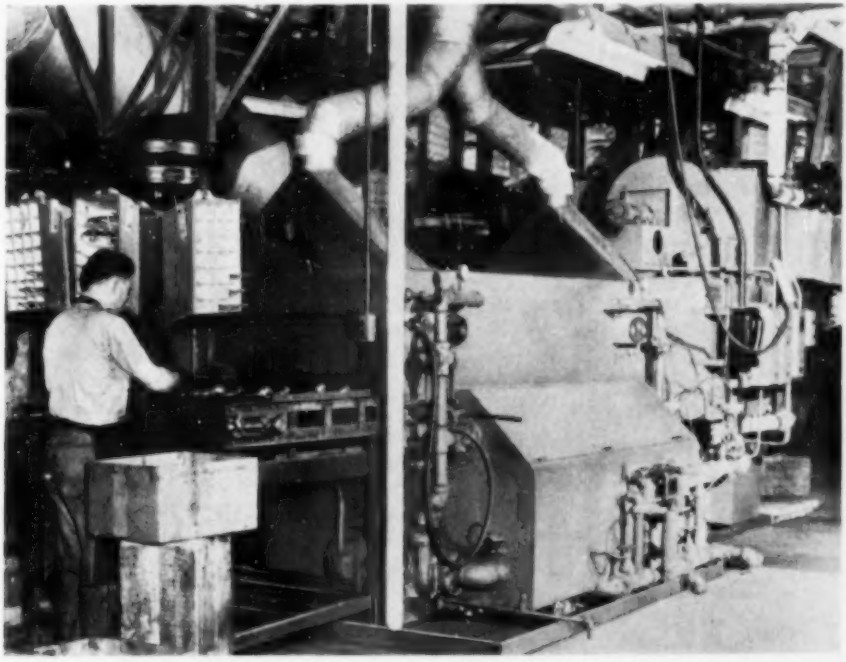
Due to the inherent elasticity and chemical inertness of polyethylene, these stop-offs can be removed from the plated parts and then replaced onto those to be plated a great number of times by simply snapping them off and on the part to be plated.

The American Agile Corporation offers the Flame Spray Equipment for making stop-offs by the individual plater, as well as Polyethylene Plating Stop-Offs made to customer's orders.

Machine Cleans Buffed Parts

The efficient removal of buffing compound from polished vacuum cleaner parts is the specific function of this washer manufactured by the Industrial Washing Machine Corporation and installed in the Electrolux Corporation plant at Old Greenwich, Conn. With a high production rate of 900-sq. ft. per hour, model CT 36 x 10 performs the difficult task of completely removing caked buffing compound from parts while saving the labor of three employees.

The machine, which occupies a surprisingly small area for its accomplishments, is heated by steam. Its operation is completely automatic; it washes, rinses and dries the work and delivers it ready for color buffing. Further facts and any additional in-



This machine removes buffing compound from metal parts . . . washes, rinses, dries work.

formation desired will be promptly supplied by Industrial Washing Machine Corp., Dept. E, New Brunswick, New Jersey.

Fountain Color Marker

The "Flo-master Fountnbrush" is a felt-tipped instrument, utilizing a special type of oil-based ink. By changing tips or nibs, it is possible to write lines varying in thickness from a hair line to a line one inch wide.

The Flo-master has an automatic spring valve which opens when the felt nib is pressed against the surface, releasing the desired amount of ink for heavy or light marking.

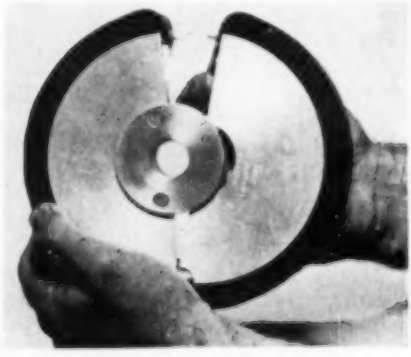
It writes on any surface—metal, glass, cellophane, waxed papers, plastics, fabrics, paper, cardboard, wood, etc.

Flo-master inks remain permanent, are smudgeproof, waterproof, and fade-resistant. A product of Gardner Laboratory, Inc., Bethesda 14, Md.

Abrasive Polishing Wheel

A small flat-rim wheel, halved diametrically through its hub, and with a cushioned rim, has been developed to take abrasive paper, so there will be no bump or gap around or across the circumference where the paper meets. It has a cone-shaped hub over which fits a hollow cone-shaped washer. When the two halves of the wheel are placed on a spindle and clamped against a fast collar with the locking washer and an arbor nut, the split wheel becomes like a solid wheel.

The wheel is perfectly balanced and when covered with abrasive paper or cloth it sands surfaces smoothly and rapidly with no bounce at the joint. It is referred to as the "Cone-loc Drum Sander". These wheels are distributed through The Carborundum Company, Coated Products Division, Niagara Falls, N.Y.



Typical Cone-Loc drum sanding wheel.

Stainless Steel Coating for All Metal Surfaces

Steelcote Mfg. Co., 3418 Gratiot, St. Louis 3, Mo., has developed a stainless steel coating for metal surfaces. Features include the following:

Can be brushed or sprayed; dries to handle in 30 to 60 minutes.

The coating protects metal surfaces against rust, corrosion and other types of deterioration caused by salt air and water, industrial atmospheres, alkalis, oils, greases, most strong acids, heat, cold and sunlight. The film is non-inflammable, odorless and tasteless when dry.

Rustproofs Without Coating

An economical method of preventing rust and corrosion of metal parts, in the presence of air and moisture, is provided by "VPI" crystals, a slightly volatile amine nitrate now being made available to industry by the Shell Oil Co., 50 W. 50th St., New York 20, N. Y. This volatile corrosion inhibitor is now being used in protecting metal parts, assemblies, instruments and finished products dur-

"FINISHING COSTS have been cut... QUALITY improved"

That's the experience of manufacturers of wood products who have been successfully hot spraying with . . .

DULAC CLEAR HOT APPLICATION LACQUERS

● You too can save time, materials and labor in finishing your wood products – can get a smoother film and higher gloss, with increased protection...by switching to the new hot spray, higher-solids finish. Be sure to use a lacquer that's *designed* for this method of application – that has *proved* its merits in actual shop practice. To get the *full* advantages of hot spray finishing, specify M & W DULAC Clear Hot Application Lacquers.

Whether you are finishing . . .

BAR TOPS . . .

GUN STOCKS . . .

BROOM HANDLES . . .

. . . OR GOLF CLUBS

There's a Maas & Waldstein product that fits your needs. Just tell us your problem!

Consult our engineering department for suggestions as to whether and how our hot spray lacquers may be adapted to your finishing problems.

PIONEERS IN PROTECTION

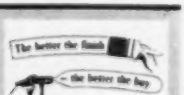
75th ANNIVERSARY • M&W CO. 1876

MAAS & WALDSTEIN CO. 438 RIVERSIDE AVE NEWARK 4, N. J.

MID-WEST DIV. - 1658 CARROLL AVE., CHICAGO 12, ILLINOIS

PACIFIC COAST DIV. - SMITH-DAVIS CO., 10751 VENICE BLVD., LOS ANGELES 34, CAL.

MANUFACTURERS OF INDUSTRIAL FINISHES



ing shipment, storage and through various processing steps.

Being slightly volatile at atmospheric temperatures, VPI gives off vapors which are carried by convection and diffusion to all surfaces of the metal, where they condense to provide a thing protective layer.

VPI, a powder-like substance, can be applied by placing it in a package enclosing the parts to be protected (as in an envelope containing ball bearing races); by blowing it into an area to be protected (as in the aircraft engines, where it is blown into spark plug holes, cylinder bores, and other parts); etc. An unusual characteristic of VPI is that it will arrest corrosion at any advanced stage.

Metal Cleaning Machine

The equipment division of Magnus Chemical Co., Inc., Garwood, N. J., announces its new 1952 Magnus AJA-LIF parts cleaning machine for solvent and alkali cleaning batches of parts. The machine is air powered, not air agitated.

The operator doesn't even soil his hands.

A flick of the operating lever brings the platform to the top of the tank, out of the liquid for inspection, loading and unloading the work. Then a second flick of the lever lowers the platform to the bottom of the tank where the work is immediately, automatically and vigorously agitated up and down in the solution, removing all dirt from the parts quickly.

These cleaning machines are available in three sizes; and can be heated by gas, steam or electricity.

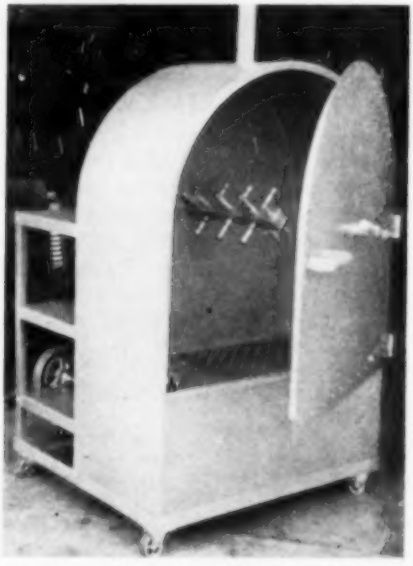
For complete information and specifications write for bulletin 703-AL.

Portable Gyro-Flow Coating Drying Equipment

A portable machine (chiefly for laboratory use) that dip coats, rotates and dries many small items at a time, has been developed by Dwight L. Millar, Patentee of Gyra-Flow automatic finishing, 1611 Crawford St., Houston 3, Texas. Quoting from Mr. Millar's letter:

"It will handle pieces up to one cubic foot in size, and larger units can be constructed to order.

"As it is, the unit will plug in for



Laboratory dip coating and processing unit.

NEW! NEW! NEW!

The Science of
Wrinkle Finishing

A SINGLE COAT FINISH

A Sure Guide To More Efficient and Cost Reducing Industrial Finishing

The first fully authoritative book covers modern Wrinkle finishes from all angles . . . It tells in layman's language, but technically correct, what the formulator must do to produce a soft, suede-like finish, or a high metallic gloss.

The "Science of Wrinkle Finishing" is well illustrated, in color and black and white. Both actual size and magnified photographs are included to show the many variations of textures possible to attain with these one-coat finishes. Preparation of the surface (little or none is needed with "Wrinkle" finish, making it the most economical industrial finish), spraying, drying and baking are all described in full. The application to flexible materials such as paper, fabrics and wood are also dealt with and described clearly.

Technical data on polymerization and on drying oils, not heretofore available, are given special attention.

A BOOK WHICH INDUSTRIAL FINISHERS HAVE BEEN WAITING FOR

SOME OF THE SUBJECTS COVERED:

ORIGIN OF WRINKLE FINISH

How it was started
How to control characteristics
What is "crystal" finish
What is crystallizing lacquer

SPECIAL PATTERN FORMULATIONS

How to make patterns
How to blend for formulations
Where are various finishes used
What oils are used for different formulations

APPLICATION

How to apply "Wrinkle"
What temperature to use
What equipment necessary
How long to bake
What are the controlling factors
What is the most effective means of application
What is the viscosity of oils for applications
How to attain the finish desired

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Outline for Polymerization in drying oils
APPENDIX B:
Summary of "Wrinkle" patents
GLOSSARY OF TERMS

Price $5.00 (Money Back Guarantee)

INDUSTRIAL FINISHING Magazine

1142 North Meridian Street **Indianapolis 4, Ind.**

110 or 220-volt single phase, with a 3-heat switch for keeping the heater coil within close limits and preventing override. A grid-rod shelf will also provide its use as a conventional oven, and the workholder shaft may be removed in five minutes if required for still larger pieces."

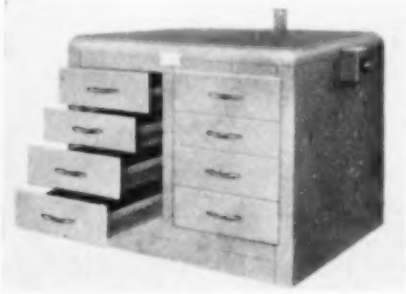
Portable Sliding Drawer Oven

The use of ovens on or close to the production line or machines has enabled manufacturers to speed up production and cut handling costs where parts or materials require preheating, drying or baking.

The latest model added to the Grieve-Hendry Line of portable electric ovens has eight drawers that permit baking of different materials at the same time, or materials inserted at intervals. High temperature magnesium strip heaters provide efficient heating. Model number is TD.

Temperature control is by thermostat and is adjustable up to 325° F. Plugs into 110-volt outlet. Forced circulation by fan driven by an electric motor. Adjustable damper controls volume of air circulation. Stale air is forced out through specially located exhaust ports.

Ovens can be provided with outside reading thermometer; 60-minute, 6-hour or 12-hour timer; red pilot light which shows when heating elements are on; and exhaust chamber adapter for venting off fumes.



O. S. D., 30-in. wide, 25-in. deep, 24-in. high.

Outside dimensions 30" wide x 25" deep x 24" high. Inside dimensions 28½" wide x 24" deep x 20½" high. 8 drawers 2" high x 11½" wide x 23" deep.

Full information may be had by writing the manufacturer Grieve-Hendry Co., Inc., 1101 N. Paulina St., Chicago 22, Ill.

For Sand-O-Flex Contour Sanders

Merit Products, Inc., 4023 Irving Place, Culver City, California, is now supplying new "scored" abrasive refill cartridges for use in its Sand-O-Flex brush-backed contour sanders. To add greater flexibility to the already triple-threat action, the abrasive cloth has been processed on machines built specifically for this purpose. The cloth is cut in staggered rows to give it pliability. The illustration shows how the new abrasive gets down into grooves and recesses with a "paint brush" action.

Sand-O-Flex refill cartridges are made up of several strips of abrasive wound around a central core and are loaded in less than a minute. The strips unwind and are backed by brushes which "cushion" the abrasive forcing it over intricate shapes. Cartridges are available in garnet and aluminum oxide cloth in a wide range of grits. They are specially made for use in Sand-O-Flex wheels only.

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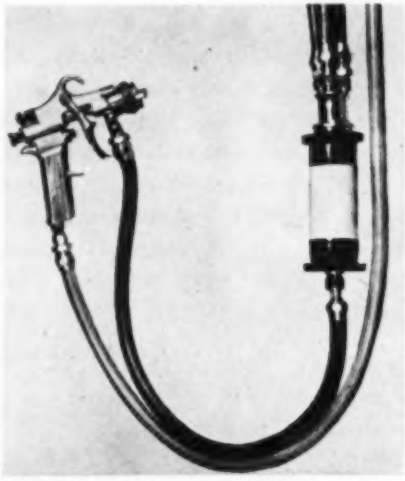
THE EGYPTIAN LACQUER MFG. CO.
BOX 444, NEWARK 1, NEW JERSEY
Plants: South Kearny, N. J. • Lafayette, Ind.

Arco Hot Spray System

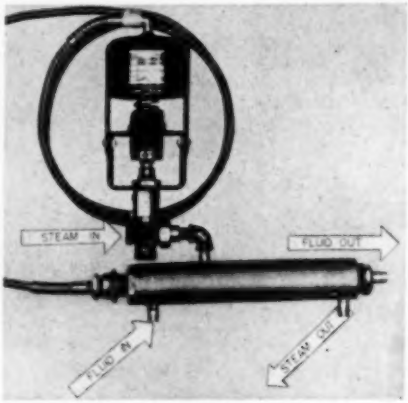
The Arco Co., 7301 Bessemer Ave., Cleveland 27, Ohio (a subsidiary of American-Marietta Co.), announces a hot spray process which, it claims "takes on added appeal because the equipment is inexpensive to install, simple to operate, and because specially-developed materials have been formulated exclusively for use in the Arco controlled temperature application system. A development of the Arco Research Laboratory, the Control-Temp* unit and controlled temperature application lacquers and enamels were precision engineered together."

Quoting further from the company's literature, "the Control-Temp unit is a compact heat-exchanger intalled in the fluid line of the gun. Using steam as the heating medium, the Control-Temp unit heats the paint on its way to spray gun. The unit may be mounted, or it may be held in one hand, leaving the other hand free for spraying. The Arco Hot Spray System uses a standard spray gun with room temperature air pressure and requires no special circulating equipment.

* Patent applied for.



Showing small steam-heat unit in material line for individual spray gun operation.



Arco hot spray equipment (steam heated) for automatic spray booth operation.

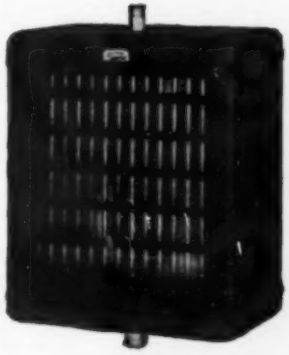
Because the main source of reduction is heat, constantly and uniformly applied and controlled, the variables present when ordinary solvents are used are eliminated. There is minimum evaporation, the lacquers and enamels are not affected by temperature changes and humidity, and the solvent-to-solids ratio of the material remains constant. With these variables controlled, quality is uniform and rejects are minimized.

"At a uniform fluid flow, paint to be sprayed reaches equilibrium temperature (approximately 160° F.) in about ten seconds and remains constant so long as flow is maintained. Since the capacity of the heater is small, and it operates on a quick exchange of heat to material, any paint left in the heater may be ejected in a few seconds and replaced with fresh material negligible loss. There is no wasted heat; no pumps or long lines containing hot paint; no electrical current . . . . the unit comes

YARNALL-

ORIGINATORS AND MANUFACTURERS OF THE UNUSUAL IN *Industrial Finishes*

Nesbitt UNIT HEATER



The beautiful durable Wrinkle cast finish on this attractive Nesbitt Unit Heater is a coating developed by Yarnall in co-operation with Nesbitt Engineers.

Become acquainted with our complete line

DIPPING AND SPRAYING ALUMINUM • FLOCK ADHESIVE UNDERCOAT • WRINKLECAST • WOOD AND METAL PRIMERS • SPECIFICATION MILITARY FINISHES • FAST AIR DRY SYNTHETIC FINISHES • YARLITE BAKING ENAMEL • HAMMERCAST • EMBOSSING FINISHES

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Ask about—
YARNALL PRODUCTION FINISHES meeting MILITARY SPECIFICATIONS

1885

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1951

YARNALL PAINT COMPANY

INDUSTRIAL DIVISION

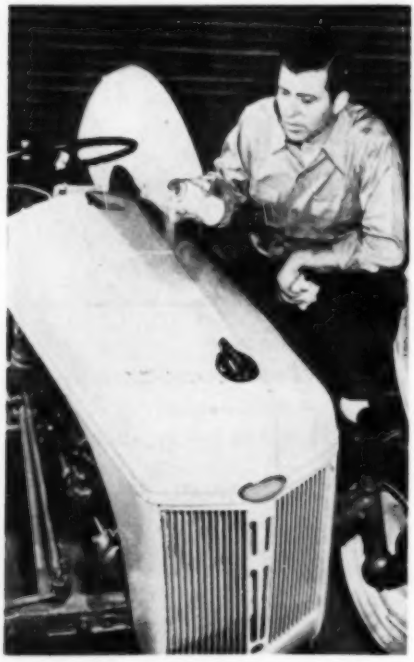
PHILADELPHIA 43, PENNSYLVANIA

apart for easy cleaning, and there are no complicated parts to catch and hold paint."

Complete details of the method, material and equipment are contained in an attractive booklet which is available when requested on company letterhead from The Arco Co., Dept. P, 7301 Bessemer Avenue, Cleveland 27, Ohio.

Quick Touch-up Work

Powr-Pak Inc., 1480 Barnum Ave., Bridgeport, Conn., contract packagers of Aerosol products, has developed a fast drying, color lacquer spray formulation for repainting or touching-up machinery and equipment that is shipped "broken down" and assembled at its destination.



For quick easy effective touch-up work.

Powr-Pak has designed and built special equipment for packaging aerosol lacquer in any quantity and color. As a service to machinery and equipment manufacturers, Powr-Pak has organized a color-match department for preparing a color formulation to match the original factory color and label the aerosol package with a custom-made label for the individual manufacturer. The use of a private label was suggested by machinery sales managers who recognized the goodwill created when a complimentary can accompanied each machine sold for future touch-up use.

According to Powr-Pak, the machine manufacturer can save a great deal of service expense by sending Powr-Pak aerosol with the equipment. The installation men have a factory prepared color paint for a quick paint job without the bothersome paint mixing, brush thinning, matching, etc. The unused paint will keep indefinitely and is reusable at any time until the content is exhausted.

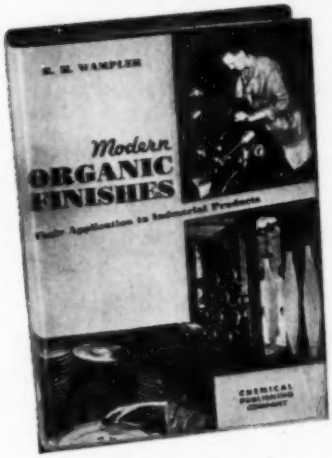
New Ignition System for Burdett Gas Burners

The Burdett Mfg. Co., 3433 W. Madison St., Chicago 24, Ill., manufacturer of industrial ovens and gas-fired burners, has recently patented a new system for igniting Burdett Radiant-Heat Burners, assuring safety during the operation.

The burners, arranged in series upon a gas supply manifold, are ignited at one end by an electric spark when a manual push button is depressed. The closed circuit also energizes the automatic gas supply valve at the same instant, permitting gas to reach all of the burners by means of the gas supply manifold, and connecting tubes.

A flame supervising device is located at the last burner of the series,

A "MUST" For All Finishers!



MODERN ORGANIC FINISHES

"Their application to Industrial Products"

This book contains 452 pages of the latest information on finishing. It describes modern finishing materials and equipment for their application, drying, conveying, etc., so that the reader may have an overall picture of modern industrial applications. Throughout, the main emphasis is on proper selection and use of materials to get the best possible finish at minimum cost.

It's Complete — Note the Contents

MATERIALS: Oleoresinous and Alkyd Varnishes and Enamels; Cellulose Lacquers; Spirit Varnishes, High Integrity and Specialty Finishes; Stains, Wood and Metal Fillers, and Miscellaneous Finishing Materials.

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Good Practice in the Finishing Department; Testing and Evaluating Finishes.

The price is $8.50 and to eliminate bookkeeping we ask that cash accompany order. Sold on a money-back guarantee. Money refunded promptly and without any questions if you are not satisfied.

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"INDUSTRIAL SOLVENTS" (764 pages) 12.00

Cash Must Accompany Order—
Send for Descriptive Circular

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1142 N. Meridian St. Indianapolis 4, Ind.

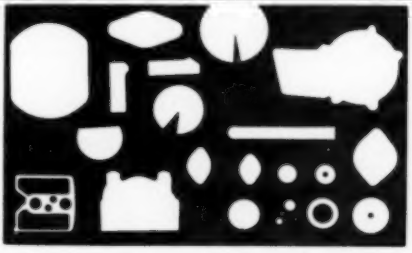
at the end opposite the spark ignitor. If its contacts are not closed by the flame in the ignited gas burner, upon release of the manual push button the automatic gas supply valve will close, shutting off the gas supply to all of the burners. If, however, the flame supervising device contacts are closed, as they should be in normal operation, upon release of the manual push button the automatic gas supply valve will remain energized and open by receiving current through the flame supervising device circuit.

Precut Spray Masks

The By-Buk Co. has developed an improved pressure-sensitive-type paper mask, which enables fast, accurate masking for production line spray or brush painting and sandblasting. As much as 90% reduction in man-hours, plus higher production with lower material cost are claimed through the use of this custom die-cut mask. Overmasking down the sides or over the surfaces is eliminated, since every mask exactly fits the area to be protected.

Accurate but inexpensive dies are made. Special die-cut presses with die capacities up to 20x36-in., cut the exact specification of size and shape of the area to be masked.

A special grade of pressure-sensitive adhesive is impregnated on the



Samples of precut adhesive spray masks.

RONCI SPEEDIP WHIRL ENAMELER

Made in Two Sizes, R-100 and R-200 Capacity 312-cu.in. and 1206-cu.in.

IDEAL FOR LACQUERING AND ENAMELING SMALL PARTS UP TO 7-IN. IN LENGTH

CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to 75-lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

Prompt Deliveries

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

2 ATLANTIC BOULEVARD CENTREDALE 11, R. I.

back of the tough paint and lacquer-resistant masking paper. The manufacturer claims it has sufficient adhesion to hold the edges down tight but not enough to prevent easy peeling of the mask without marring or leaving a residue on the finished surface, and does not dry out or lose its sticking qualities. Special heat-resisting paper for bake ovens is also available.

A creped paper protection sheet is loosely attached to the adhesive surface, which remains in position for easy handling until the mask is to be applied, at which time it is quickly stripped off in one operation. When several different mask shapes or sizes are required for a single job, the manufacturer will supply the complete set, die-cut from one sheet, ready for quick handling by the masking operators.

Samples and quotations can be obtained by sending a pattern or blue print of surface to be masked, together with information regarding quantities required, to By-Buk Co., Dept. 28, 4314 W. Pico Blvd., Los Angeles 19, California.

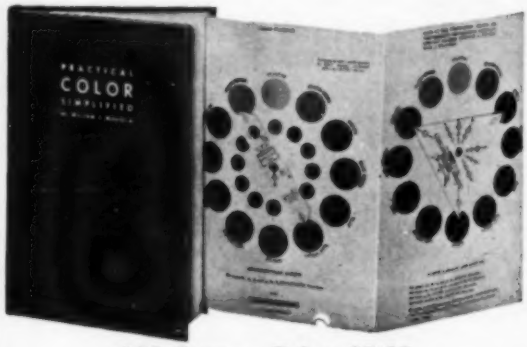
Behr-Cat Strapping and Masking Tapes

Behr-Manning Corp., Troy, N. Y., Division of Norton Company, announces the addition of two new items to its line of Behr-Cat Brand Pressure Sensitive Tapes.

No. 211 Behr-Cat Brand Strapping Tape is a glass filament reinforced tape specifically designed for heavy duty service in the fields of strapping, packaging, banding and carton sealing. It has high tensile strength and great resistance to handling wear.

No. 113 Behr-Cat Brand Masking Tape has been developed especially for the difficult operation of masking off

PRACTICAL COLOR SIMPLIFIED



A Handbook for everyone interested in or using Color. Contains many Tables, Color Plates and the Miskella Patented Color Chart. Just revised and reissued in a Limited Edition after many urgent requests from among 5000 users of previous editions in all parts of the world. Answers those vexing color questions which come up every day—the little technical puzzlers that bother. Contains a wealth of valuable information written in understandable form so all may understand.

The Patented Miskella Color Chart enables you to mechanically select colors, mix shades and tints, harmonize three or more colors and avoid color discords. Securely fastened in back of book. Colors are hand applied with lacquer on cloth not easily damaged by frequent handling. On it are mounted, pivoted celluloid arrow and triangle. This Chart is worth alone the price of the entire book!

128 Pages. Price $5.00

INDUSTRIAL FINISHING, 1142 N. Meridian, Indianapolis 4, Ind.

areas on anodized aluminum and magnesium, as well as castings of these materials and their alloys, particularly where such parts are to be subjected to high temperatures.

Chemical-Proof Clothes

Work clothes made of the new Dynel fabric have been introduced by the Mine Safety Appliances Co., Braddock, Thomas and Meade Streets, Pittsburgh 8, Penn. Called MSA ChemKlos, they are said to resist acids, caustics, wear, moths, mildew, shrinkage, snagging and tearing.

Available in shirts, trousers and coveralls, MSA ChemKlos offer complete protection, yet are comfortable and neat-appearing garments. They are easily cleaned and are not harmed by commercial dry-cleaning and washing solvents in concentrations hard on ordinary fabrics.

New Lacquer Protects Metals Against Corrosion

A water-white synthetic lacquer that provides non-ferrous metal objects, ranging from hardware fixtures to lipstick cases, with lasting protection against corrosion, has been developed by the United Lacquer Mfg. Corp., 1001 West Elizabeth Avenue, Linden, N. J.

The clear lacquer, BO-562, provides unusual hardness. It offers high resistance to tarnishing caused by body acids, perspiration, alkalis, and to corrosive elements in the atmosphere. BO-562 may be applied to brass, bronze, aluminum, platinum, copper and to other non-ferrous metals.

It is applied in a thin coating, which preserves an original plated metal effect; may be applied by brush, dip or spray; dries to dust free within a few minutes and may be handled within approximately 10

minutes; is available in gloss, semi-gloss and flats.

Combination of these properties will make the new resin-based lacquer valuable for finishing industrial items, such as brass-plated domes, doorknobs and other hardware fixtures, in addition to jewelry and personal objects like cigarette cases, cosmetic and lipstick cases.

Drum-Handling Rig for Lift Truck

A new horizontal drum-handling device that can be attached to any industrial fork truck without removing the forks or making any hydraulic or mechanical connections is now available from the Philadelphia Division, Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Penna. Completely automatic, the new device is a self contained unit that fits over the forks and is fixed to them with two screw type clamps.

One or two standard drums can be picked up with the drum handler by simply lowering it over them while the truck is slowly backing away. Rear clamps are spring loaded and snap under the lip of the drum. When the drums are lifted, gravity action locks the clamping hooks in place. Depositing the drums is just as easy

Can be attached to industrial fork truck.

ty-d Hand Protector

A Protective Hand Cream

It's especially formulated for persons handling Polishes, Paints, Varnishes, Lacquers, Stains, Inks and Adhesives.

- Does not irritate, dry or crack the skin.
- Readily removed with soap and water.

FREE!! FULL SIZE SAMPLE.

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RESTORE PAINT IN 2 MINUTES

PER GALLON WITH
MIRACLE BLUE - BOY
5 GALLON
PAINT REJUVENATOR

Paints, lacquers and enamel products can be restored to their original consistency without opening the can. Units available to handle from ¼ pint to 50 gallon drums. Immediate delivery.

Originators of paint rejuvenating equipment---sixteen years—thousands of satisfied users.

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MIRACLE PAINT REJUVENATOR CO.
128 E. 10th Street St. Paul 1, Minn.

as picking them up. The drums are lowered, the truck is moved forward (stretching the springs on rear clamps) and as soon as the forward clamps are free, the channels on the truck are tilted back. The truck is then backed away to free rear clamps.

"Turnlox" Lighting Equipment

The Benjamin "Turnlox" detachable reflector, which permits the removal of reflector and lamp as one unit for easy cleaning on the ground or at a bench, presents an answer to today's rising lighting maintenance costs. Although it is well-known that accumulation of dust and dirt on lamps and reflectors drastically cuts light output, there is a tendency towards maintenance letdown to cope with today's higher costs. This reduction in the frequency of maintenance may cost from 10 to 40% of the light paid for!

The "Turnlox" detachable reflector permits quick and easy removal of reflector and lamp (also globe where supplied) from the hood containing the wiring terminal base. All that is necessary is a slight upward pressure on the reflector rim and less than a

Lamp and reflector come loose easily.

No. 150
SpeedWay Speed Sander *Sands, Rubs, Polishes*
. . . FOR DRY OR WET FINISHING
Motor-Driven 3/16" Orbital-Motion

Powerful, direct-connected (no gears), 3450 r.p.m., 100-120 v AC air-cooled motor. All sealed ball-bearing construction. Die-cast aluminum housing, polished. All-position handles. In hand weight only 5 lbs. Insulated with ground wire for wet as well as dry sanding or rubbing. Available accessories—deep contour pads, surface plates, felts, etc. Takes any sheet abrasives—3 covers 4½" x 6½" from standard 9" x 11" sheet.

A time saving quality tool priced so every worker can have one.

$34.50

Write for Circular

SpeedWay MANUFACTURING CO.
1886 So. 52nd Ave., Cicero 50, Ill.

quarter turn to the right. A sturdy 3-point bayonet coupling between the hood and reflector is the key to the "Turnlox" design. Electrical and mechanical connections are joined simultaneously with the engagement of the bayonet lock. Automatic polarization is provided.

Qualasole Blond Finish

Bleached Qualasole Padding Lacquer, for producing and preserving blond finishes, is a new product announced by Qualatone Products, Inc., 21 Gay St., New York 14, N. Y. The company declares that this new padding lacquer for bleached blond finishes *will not darken with age*. Used properly, it produces an attractive and durable clear finish of the type required for modern light colored wood furniture, cabinets, fixtures and novelties.

Rubber Covered Handling Facilities Save . . .

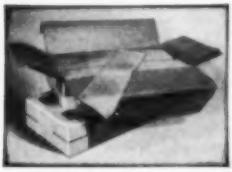
With the call for faster production in the country's factories, and more and more precise and fragile parts being specified, planning engineers are finding that the extra cost of tough, yet soft rubber and synthetic covering on material handling equipment is being paid for quickly in savings on rejects.

The Automotive Rubber Co.'s engineers have been a factor in the development of rubber-cushioned handling baskets, pans, spacers, chutes, hooks, racks, etc., making it possible to safely handle larger quantities of fragile parts faster and without slippage, marring and scratching.

Specific problems along this line can be answered by the Automotive Rubber Co., Inc., 8601 Epworth Boulevard, Detroit 4, Michigan.

NOW! Tack Cloth in Handy Rolls *or* Cut Bulk

Cut off any size piece and use as needed.



Already cut and folded, ready to use.

Now you can get Tack Cloth packed the way it's easiest for you to use—either in 150 yard rolls of 36" wide cloth or in handy cartons—100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will **stay** SOFT and TACKY until the very last bit is used up.

The Cut Bulk size is 18" x 36"—folded to 4½" x 18" for easy handling. **All of our Tack Cloth is Spontaneous Combustion-Proof, Lint-Free and Wax-Free.** It's clean and sanitary—there's no waste.

Write today for complete information, prices and samples.

Baughn Chemical Products Company
"The Tacky Wiper Specialists"
7027 N. RAVENSWOOD CHICAGO 26, ILL.

Also Individually Packed in Glassine Envelopes —144 to the Carton.

A WARRANTY OF SATISFACTION IN EVERY CARTON

TOMORROW'S Products Tested TODAY

A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.

SOUTH FLORIDA TEST SERVICE
EST. 1931
4201 N. W. 7th St. Miami 34, Fla.

"Magic Marker"

A new marking device consists of a throw-away bottle and a felt tip designed to permit fine, medium or bold marking on either porous or non-porous materials. "Magic Marker" makes a semi-opaque mark which dries instantly and is permanent. It is made in nine colors, including black and white.

Complete information may be had from the manufacturer Speedry Products, Inc., 19 Rector St., New York 6, N.Y.

Small Air Compressors

Now the highly efficient, smoothly and quietly operating features of a DeVilbiss V-type, 4-cylinder, 2-stage air compressor have been made available to users of 3 and 5-hp. air compressing outfits. These smaller air compressors augment the DeVilbiss line of 7½, 10 and 15-hp. units. All of the sizes are available for either 125 or 175-lbs. pressure service.

The V-type compressor is built for long life and rugged, heavy duty service. The purpose of the four cylinders, DeVilbiss engineers say, is to divide the work and reduce the amount of heat generated. What heat is generated is rapidly dissipated by finned cylinder heads, blocks, inter-coolers and check valve, aided by an effective fan-type flywheel.

Operating parts have been carefully counter-balanced and designed to

prevent vibration and assure a smooth and quiet running compressor.

All outfits are equipped with automatic pressure switches to start the motor when pressure drops and to stop the motor when the desired maximum pressure has been reached. ASME air receivers and high starting torque electric motors are standard equipment on all sizes.

These compressors are products of The DeVilbiss Co., Toledo, Ohio.

IPCO Safety Scoreboard

Industrial Products Company announces a new safety record sign. Designed to act as a constant reminder of days worked without a lost time injury, it conveys the thought that responsibility rests with each and every employee; keeps up daily interest; makes for a well informed organization.

The IPCO Safety Scoreboard is 20-in. wide by 30-in. high, large enough to be seen at a distance; attractively finished with green background and white letters; features two blackboard finish panels enclosing the word "Days" so that it may

YOU
can *rely* on
RANDOLPH

FOR PROMPT SHIPMENT IN ANY QUANTITY OF

PERFORMANCE PROVED
GOVERNMENT SPECIFICATION
FINISHES

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Lacquers • Enamels • Dopes • Thinners
Clear Metal Finishes • Colored Lacquers
Clear S.G. for Metal • Texture Enamels
Specialized Production Finishes
Aircraft Finishes

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RANDOLPH
PRODUCTS CO.
CARLSTADT, NEW JERSEY

MODERN POLISHES AND SPECIALTIES

By W. D. John
Consultant Industrial Chemist

This book will help develop and improve polish preparations with over 700 practical and successfully developed modern formulae including history, method of preparation, uses, manufacturing details and other technical data.

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This new edition is an excellent text and reference book of 758 pages, containing a tremendous amount of authentic and complete information on industrial solvents and their uses—for example, in cleaning and finishing materials and wherever solvents are used in industry. The revised contents are organized and classified in easy-to-read, easy-to-find form for practical busy men.

Its practical contents are divided into 16 chapters, some of which include such headings and sub-headings as solvents, non-solvents, evaporation rate, boiling point, flash point, toxicity, viscosity, safe handling, hydro-carbon solvents, alcohols, ketones, acids, ethers, esters, etc. It contains many new charts, illustrations and conveniently tabulated material, all developed to help the reader grasp the factual information quickly. The alphabetical subject index covers 11½ pages.

This book will prove valuable to key men in the industrial field, who have responsibilities in connection with the cleaning, surface conditioning or preparation of products for painting, plating or polishing, and those concerned with the selection, purchase, storage, handling, testing or use of finishing materials and thinners for same.

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be kept up to date by marking in with chalk. It is made of 20-gauge metal and finished in baked enamel; suitable for both indoor and outdoor use.

Full information may be obtained by writing to Industrial Products Co., 2974 N. Fourth St., Philadelphia 33, Penna.

New MSA Respirator

A new respirator, designed primarily to protect workmen exposed to oxides of beryllium, radio-active dusts, and similar hazardous particulate matter such as is encountered in many new processes today, has been developed by the Mine Safety Appliances Co.

Called the Comfo Ultra-Filter Respirator, it has a filter efficiency of 99.99% against particles 3/10 micron in size. As an example of its efficiency, the Ultra-Filter effectively removes tobacco smoke from the air. When freshly generated, tobacco smoke falls within a particle size range of from 0.05 to 0.1 micron. The smallest particle which can be seen under an optical microscope is 0.2 micron.

Complete details have been published in Bulletin No. CR-27, available without charge from Mine Safety Appliances Co., Braddock, Thomas and Meade Streets, Pittsburgh 8, Penna.

Automatic Conveyor Lubricator

An automatic conveyor lubricator with enclosure especially designed for factories where an unusual amount of dirt, dust, spray, etc. circulates, is announced by the J. N. Fauver Co., Inc., 49 W. Hancock, Detroit 1, Michigan. This is a self-contained grease lubricator type, driven by contact with the trolley wheels.

As the trolley wheel approaches lubricator, hub engages sleeve of one of the five pumping units. Continued

rotation of the lubricator forces the pumping unit inward, delivering a measured quantity of lubricant to the wheel bearing. Then a cam located in the pump housing snaps the next pumping unit into position to contact the next wheel. Operates on conveyor wheels equipped with or without Zerk hydraulic fittings.

Wet-Blast Cleaning

The Cro-Plate Co., Inc., 747 Windsor St., Hartford 5, Conn., announces the availability of a newly-redesigned "Pressure-Blast, Jr." This new bench model wet-blasting unit has no pump; the pump function is taken care of by the siphoning action of a compressed-air operated jet gun.

The machine requires only one ¾-in. water connection, one ¾-in. air connection (standard shop pressure) and a single 110-volt line for blower operation and lighting. Of stainless steel construction with sweat copper plumbing, the new model uses any abrasive from 75 to 5000 mesh.

Clear Silicone Resin Coating Water Repellant for Masonry

A new development by the Preco Laboratories, 40 E. 40th St., New York 16, N. Y., now makes it possible to incorporate the excellent properties of silicone resins in a clear, non-staining water repellent coating for porous exterior masonry surfaces such as Brick, Concrete, Stucco, Limestone, Sandstone and Mortar.

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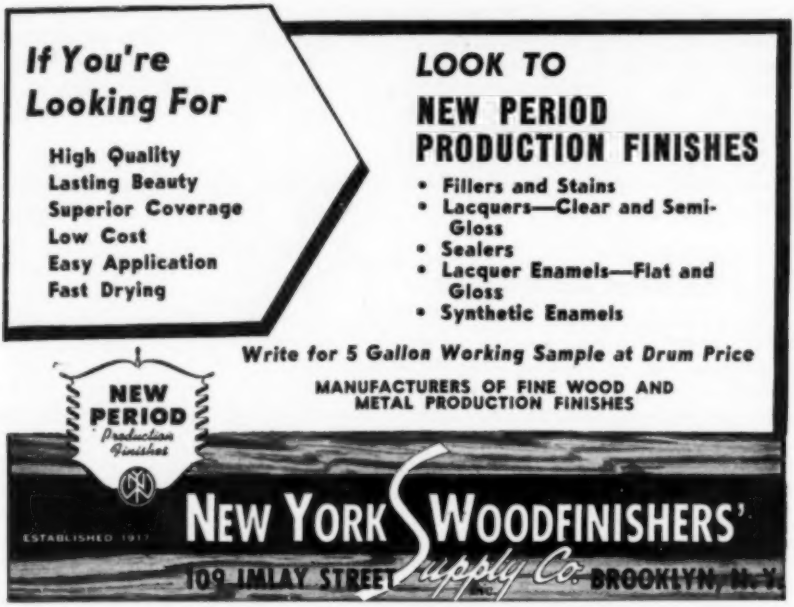

this material is that it does not yellow with age and is extremely long lasting. It penetrates as much as ¼-in. into surface, therefore surface weathering does not destroy effectiveness of the coating.

Special Decal Nameplates

Special decal nameplates, markings and decorations which provide dependable and long-lasting adherence to plastic, metal, baked enamel, raw wood and other "problem" surfaces, have been developed by the research department of the American Decalcomania Co., 4344 Fifth Ave., Chicago 24, Ill.

The "Sticktite" decal and "type 200" are specifically designed for durable adherence to most phenolic and acrylic plastics; they also provide abrasion resistance and extra-long life on bare and painted metals, crinkled finishes (embossed, rough, etc.), leather and leatherette, bakelite, baked enamel and fibre board.

Super-Resistant AWOG Floors

Scientifically developed to resist such common floor disintegrators as acid, water, oil and grease, AWOG floors are reported to outlast ordinary concrete 3 to 1. Extreme durability is attributed to its tight, close-knit composition. Micro-photographs reveal practically no voids or pores. Unlike concrete, liquids can't penetrate to attack the bonding element.

Used for repairing broken areas or for complete overlays, AWOG sets up a smooth, case-hardened, dustless surface; withstands grueling loads, steel wheels, hard knocks; is sanitary and easily cleaned; is recommended for new floors, for overlays over brick

or stone; for repairing or resurfacing areas of any size, indoors or out. Write to Flexrock Co., 3620 Filbert St., Philadelphia 4, Penna.

Reflecting Highway Paint

"Centerline" is the name of a reflectorized paint for highway lane marking, recently patented by Minnesota Mining & Mfg. Co., St. Paul, Minnesota.

According to claims by the company, "the reflectorized material is applied like conventional lane marking paint, but lasts three to five times longer, and reflects over 300% brighter at night."

The product consists of a liquid containing millions of tiny glass spheres which serve as reflex-reflecting lenses. Through wear from traffic and weather the tiny lenses become brightly polished and at night they reflect the light from the automobile back to the driver.

REPRINTS AVAILABLE

"HOW MUCH IS A GALLON OF PAINT WORTH"
as published in the August, 1950, issue of this magazine.

"WHY COLOR CHANGES IN FINISHED FURNITURE"
from the September, 1951, issue.

"CLEANING AND PREPARING METAL SURFACES FOR THE APPLICATION OF MODERN PAINT COATINGS"
from the November, 1951, issue.

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   - Cementation or Diffusion Coatings
     a) Aluminum (Calorizing); b) Chromium (Crominzing); c) Zinc (Sherardizing).
   - Electrodeposited Coatings
     a) Nickel; b) Chromium; c) Cadmium; d) Zinc; e) Copper; f) Tin; g) Other Electrodeposited Metals (Lead, Alloy etc.)
2. NON-METALLIC COATINGS
   - Organic Finishes, (Paint, Lacquers, Enamels, etc.).
     a) Classification of Organic Finishes; b) Special Texture One-Coat and Two-Coat Finishes; c) Shop Coats and Corrosion-Inhibiting Primers; d) Complete Finishing System; e) Special Synthetic Resins; f) Asphalt or Pitch-Base Enamels, Japans; g) Aluminum Paint; h) Oils and Greases for Temporary Protection.
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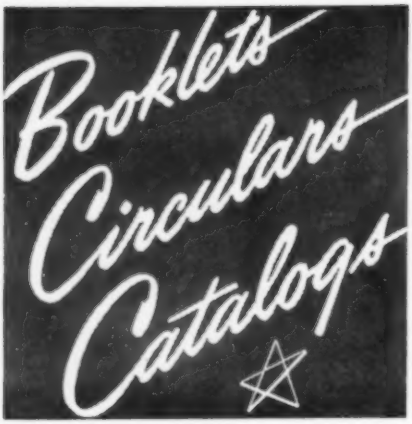

Heat Resistant Paints

Facts and figures about three different heat-resistant paints (up to 1300° F.) are revealed in circulars recently sent out by Geo. R. Mowat Co., 24 West 40th St., New York 18, N. Y. These paints are available in aluminum and six other colors.

Industrial Engineering Literature

A new bulletin "Keynotes to Success" has just been released by the Industrial Engineering College of 3309 West Washington Boulevard, Chicago 24, Ill. It is informative, giving names and descriptions of subjects encountered in the Industrial Engineering profession.

Phosphate Coating Processes

Information relating to phosphate coating processes for rustproofing and paint-bonding is contained in a small free 5½x8½-in. folder published and distributed by Detrex Corporation, Box 501, Detroit 32, Mich.

100-page Catalog of Materials, Supplies and Equipment

Hundreds of items that are used in finishing rooms of all kinds and sizes—materials, supplies and equipment—are listed in the big new catalog No. 51 recently released by Wilkinson Equipment & Supply Corp., 6958 S. Wentworth Ave., Chicago 21, Ill. (Telephone, Hudson 3-5222). The big catalog is alphabetically indexed so that whatever product is wanted can be found easily and quickly.

In addition to all kinds of finishing materials (such as stain, filler, shellac, lacquer, enamel, varnish, thinner) and equipment (everything needed for spray painting, from smallest to largest industrial setups) there are included burn-in knives, heaters and materials; rubbing and polishing compounds, felt, repair kits, amalgamator, removers and strippers, oils, bleaches, shellac and lacquer sticks, steel wool, pumice, repair filler and cement, etc. Several of the items listed are probably unknown to some finishers. This catalog is really a finisher's handy reference book wherein most of the things any finisher can use are listed.

Improved Bulletin Board

Attractively designed to meet the demand for a lower priced bulletin board, The Bettercraft Co., 311 N. Desplaines St., Chicago 6, Ill., has just completed a new Pin-Up Bulletin Board.

This 18x24-in. composition bulletin board is faced with deep rayon flock; it holds thumb tacks firmly, has a pin-up title heading, and border trim in colors of red, green, blue and tan.

Vacuum Processing Systems

The F. J. Stokes Machine Co. has published a new brochure on Complete Vacuum Processing Systems. The 12-page catalog describes, pictures and gives complete specification tables of many types of vacuum equipment widely used in industrial processes.

A copy of the new publication, Catalog No. 715, "Complete Vacuum Processing Systems," is available by writing to the F. J. Stokes Machine Co., 5500 Tabor Road, Philadelphia 20, Pa.

Savings by Standardization

Specific savings and production benefits directly attributed to standardization in American industry are cited in "Dollar Savings Through Standards," a presentation of 140 documented case history studies now made available by the American Standards Association. The 32-page book is a printing of a report called "Survey to Obtain Data to Show Savings Derived from the Use of Standards by American Industry."

"Dollar Savings Through Standards" may be obtained for $1.00 from the American Standards Association, 70 E. 45th St., New York 17, N. Y.

Heat Processing Booklet

"Heat Processing . . . with the most advanced techniques and equipment," a new bulletin issued by Selas Corporation of America, approaches heat processing through five basic questions: What is to

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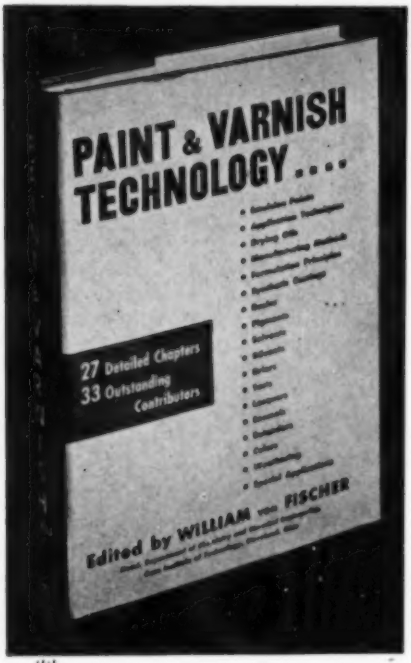

505 pages, illustrated
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This is the first comprehensive one-volume presentation of the chemistry, formulation, manufacture and applications of paints, varnishes, lacquers and enamels. There is a wealth of information on such subjects as exposure tests, viscosity, film properties, hiding power, special applications and surface preparations. A valuable addition to your personal library. Send for it NOW!

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be heated, what sections are to be heated, why the material is to be heated, to what temperature or temperatures, and the heating time.

The bulletin (12 pages 8½x11-in.) illustrates the application of high-production heating principles to solid and fluid products ranging in size from mill operations to delicate enameled pieces. The bulletin, No. S-7.1, is available upon request to Selas Corporation of America, Philadelphia 34, Penna.

Pressed Metal Blue Book

Copies of the revised supplement to the Blue Book of Stamping Manufacturers, listing the facilities of members of the Pressed Metal Institute, are available upon request to the Pressed Metal Institute, 13210 Shaker Square, Cleveland 20, Ohio. This book lists reliable, competent and helpful sources of supply and is primarily designed to assist purchasers of pressed metal parts to locate sources.

76-Page Manual Lists 1500 Industrial Tape Uses

Polyken Industrial Tape has just released the "Polyken Standard Industrial Classification Manual" which consists of 76 pages 6x9-in., bound by a plastic ring tube between heavy green paper covers, printed in silver. It cites 1500 applications for industrial tape.

This book, more familiarly called the "Polyken Tape Use Manual" contains 21 Major Group Classifications (based on the U. S. Census breakdown), 175 detailed industry classifications — and approximately 1500 distinct and specific uses for Industrial Tape. It constitutes at present the basic guide to industrial tape usage, and frequent additions are planned to enlarge it and keep it up to date.

Unfortunately, the Tape Use Manual is not at this time available to the general public. However, anyone interested may contact a Polyken Wholesaler or write to Section P2, Polyken Industrial Tape, Dept. of Bauer & Black, 222 W. Adams St., Chicago 6, Ill.

"Liquid Envelope" Strip Coating Technical Data Sheets

Better Finishes and Coatings, Inc., 270 Doremus Ave., Newark 5, N. J., has issued the first six of a series of Technical Data Sheets on various "Liquid Envelope" formulations. Additional sheets will be issued as data on new formulations becomes available. Technical Data Sheets available for immediate distribution without cost or obligation cover: 5291 AL, Peelable Cold Spray for protecting Aluminum; 5377 and 5268, Opaque

Peelable Cold Spray for protection of work in process in the metal working industries; 6510, Peelable Cold Spray for protecting Magnesium and other light metals; 3178, Permanent Clear protective film; 5396-2, Peelable Spray Booth Film.

These Technical Data Sheets contain factual information on uses, application methods, solids content, adhesion, viscosity, chemical resistance, tensile strength, elongation, storage and stripping instructions and other useful data on each "Liquid Envelope" formulation.

Conveyor and Infra-Red Equipment Bulletin Free

Overhead cable conveyors and infra-red tunnels and ovens are illustrated and described in an attractive and informative bulletin of 16 pages, 8½x11-in., bound between blue covers. A copy of the booklet can be obtained free by writing to Triangle Equipment Co., Inc., 45 River Road, Nutley, N. J. The company's business includes the designing and engineering of specialized electrical and mechanical equipment for industrial production.

Klem Kote, 3-Stage System

Klem Chemicals, Inc., 14401 Lanson Ave., Dearborn, Michigan, announces the publication of literature on a new metal conditioning process.

Klem Kote is a new development in the field of metal cleaning, preparation and rust-proofing. Used in a 3-stage washer system the company claims that it gives paint adhesion and salt spray resistance equal to some five and six stage rust-proofing systems. It imparts a fine irridescent, crystalline, tightly adherent, complex phosphate coating to the metal surface.

Further information on this new Klem Kote may be obtained by addressing Klem Chemicals, Inc.

Tousey Varnish Co. Adds to Its Laboratory Facilities

Tousey Varnish Co. announces an addition to its laboratory facilities in the plant at 520 W. 25th St., Chicago, Ill.

Occupying a 20x60-ft. area, the new laboratory doubles the capacity of the company's Development and Research Divisions. Each of these departments is fully equipped with spray booths, grinding mills and mixers, temperature ovens and other necessary equipment for developing new products.

Tousey also has a Product Evaluation Laboratory that contains such machines as salt spray and humidity cabinets, wetherometer, abraser, gloss meter, dry recording machine, and many other types of equipment to test resistance and durability of finish films.

In the Raw Material Control and Production Quality Control Laboratories, basic materials are tested and results carefully recorded. Here the elementary steps are taken that assure finishes of highest caliber in all Tousey products.

With the new capacity, Tousey can offer to its customers and prospective customers, a complete service of analysis and recommendation, as well as immediate action on sample requirements.

View inside the new additional laboratory (20 x 60-ft.) of Tousey Varnish Co., Chicago, Ill.

Industrial FINISHING Editorial

Too Much Fire Loss

According to the National Fire Protection Association, more than 100,000 persons were burned and many hundreds of thousands more were disfigured by fire during the last decade. This year, about 10,000 Americans will die needlessly in fire and more than twice that number will be severely burned or marred for life.

Every day there are 28 deaths by fire; 139 store fires; 80 factory fires; 9 church fires; 8 school fires; three hospital fires.

The principal offender is human carelessness—and then lack of prompt extinguishment of the fire. When a blaze starts, time is of the essence. If nipped in the bud, the 580,000 building fires that occur every year in the United States would only result in small loss to property and life. Of this number, there were 243 fires during 1950 with individual losses of $250,000 or more, totalling an awful waste of $152,593,000.

Why? Because the human agency was incapable of spot extinguishment of fire by first aid means, or fire protection equipment was lacking.

Each of us can do something to help reduce this great and useless loss. To speak, write or act at the moment you see an opportunity—whether or not you have authority to give orders—this prompt step on your part may be the direct or indirect means of preventing a serious and costly fire with its destruction of property and possible loss of jobs and lives Never hesitate to speak up or act in the interest of removing or discontinuing a fire hazard or a hazardous practice that may some day result in a damaging fire. Fires have a way of often causing more damage than meets the eye—and doing direct or indirect harm to some who might least expect to be touched.

Acknowledgment: All but the last paragraph of the foregoing article appeared in a letter sent out Oct. 1, by the National Automatic Sprinkler & Fire Control Association, 205 E. 42nd St., New York 17, N.Y.

What's New? A Cleaned and Painted Finishing Room

The other day I stopped in to see a finishing foreman who I hadn't seen for about a year. He was in his little cubby-hole that he calls an office. After the usual questions on health and family, I asked him, "Well what's new in finishing?"

"I have something to show you that I'm proud of", he declared. "It's new to us but it's probably the oldest thing in the world. I've finally

★ ★ ★ **INDUSTRIAL FINISHING wishes all of its friends a Merry Christmas and a Safe, Happy, Prosperous New Year.**

cleaned up the place. Come out and take a look."

As we walked toward the finishing room he continued, "I've known all along that it was wrong to allow this place to remain dirty and unkept in appearance. A finishing room should be straightened up and kept clean, but I just never got around to getting it done. It all started when I had to move two pieces of equipment. We had to clean up before we could find a place to move it. Then I got the idea and talked the big boys into allowing me to clean up and paint the entire finishing room".

By this time we had reached the cleaned-up, painted-up finishing room. What change from what it used to be! This place just radiated efficiency, prosperity and personality. No jackets or caps hanging on nails; all of the inspirational pin-ups were gone; no wiping rags scattered around on the floor; in fact, even chewing gum wrappers were cleaned up. All of the equipment, spray booths, pressure tanks, ovens, etc., had been painted—ovens and pressure tanks with aluminum paint, the remainder with Nile green.

When my eyes finally settled down, the foreman turned to me and said, "You know, it's a real pleasure to work in a place like this". I agreed with him—and I'm sure the workers and the management liked it much better too.

"Hey, Ed, have you found out what's causing that orange peel yet?"

Silicone Trouble and How to Avoid It

★ Many of the best waxes, polishes, hand rubbing compounds and machine buffing compounds on the market today contain silicones. This silicone content has created a problem in finishing departments and especially where it is necessary to recoat furniture that has had any of the silicone materials used in the rubbing and polishing process. Even removal of the finish doesn't remove the silicones, as they seem to penetrate into the pores of the wood.

We have found that wiping cloths which have been used to wipe silicone-containing materials cannot, in many cases, be used after they have been re-laundered because apparently, no amount of laundering will remove the silicones from them.

In one of our factories we experienced trouble with small pits or rings appearing in our finishing coats of both urea and lacquer. We traced this trouble to a rotary lambs wool buffing wheel in our rubbing and polishing department which is one floor below the finishing department. We

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found that the buffing machine (on which we were using a buffing compound containing silicones) was throwing the compound into the air in the form of a dust, and that the silicones in the dust were going out through the windows near the machine. Then the powerful exhaust fan of the spray booth was pulling that silicone-laden air in through a screened window near the spray booth and across and, of course, onto pieces of furniture traveling through the spray booth.

When we stopped running the buffing wheel for a few hours, the pitting trouble in our finish would stop; but just as soon as we started the machine again, we would notice the same pits appearing in the finish.

While materials containing silicones can cause a lot of headaches to the finishing foreman, they can and are being widely used—by observing certain precautions. I suggest that the following precautions be observed when using silicones:

1) Never use a material containing silicones on a buffing machine near a spray booth.

2) Be extremely careful to avoid using, on any surface that is to be coated or recoated, relaundered wiping cloths that have been used to wipe silicone materials.

3) Where surfaces that have been rubbed or polished with silicone materials, and if they are to be recoated or completely refinished, always wash them first with white gasoline or mineral spirits, then wipe with a clean cloth. Follow this with a good sponging with pure gum turpentine. Then wipe clean with a soft clean cloth. Some finishing material manufacturers are now selling a silicone remover which may be used instead of turpentine.

4) When you purchase waxes, polishes and rubbing compounds, be sure that your supplier informs you as to

whether or not they contain silicone. This will allow you to observe the above precautions and thus help you to avoid a lot of trouble.

While the above suggestions may not eliminate all of your silicone troubles, I am sure that they will help in the correction of some of them.—*H. W. Chester.*

Be Fair With What You Have to Use

★ Sometimes finishing materials are condemned and discarded because they do not do the job expected of them, when actually it isn't the fault of the finishing materials at all. In many such cases the materials were not used properly.

As an example, a finishing room foreman may buy and try to use a certain filler because it happens to be the color he wants or because it does an excellent job of filling the wood . . . but he doesn't think about having his supplier formulate and make the filler to dry according to the specified drying schedule on his production line. For instance, he may have only 1½ hours drying time in his drying oven, but he buys a filler that should have three or four hours of force drying or maybe an overnite air drying. When the filler fails to dry completely in 1½ hours he just kicks it out, without trying to determine the cause of his trouble.

The same thing can apply to other materials, such as stains, sealers, lacquers, synthetic top coats, etc.

On our modern high-production conveyorized finishing systems it is especially important that the foreman finisher, in cooperation with his finishing material supplier, make a survey to determine the type of materials needed for the system in which these materials are to be used. This will help him to avoid the mistake of buy-

NEW! NEW! NEW!

Here is an informative and authoritative reference book of 386 pages that reveals the details of modern production finishing of furniture and other wood products. The author is G. L. Deniston, B.S. (Chemical Engineering), Director of Industrial Finishes Division of Commonwealth Engineering Co.

SUBJECTS COVERED BY CHAPTERS

1. Cabinet, furniture and other woods
2. Glues and gluing
3. Sanding
4. Bleaches and bleaching
5. Staining materials and methods
6. Aniline dyes for Chadeloid NGR stains
7. Organic solvents
8. Fillers and filling
9. Sealing the surface
10. Patching up practice
11. Finishing with varnish
12. Lacquers, synthetics and application
13. Rubbing and polishing
14. Novelty finishes
15. Decorative techniques
16. Finishing schedules
17. Good finishing practices
18. Repairing and refinishing
19. Glossary of terms

Contains 18 chapters, with interesting illustrations. Information in "The Science of Modern Wood Finishing" is based on the latest materials, equipment, supplies and methods used in modern factories today. Many articles published in INDUSTRIAL FINISHING Magazine are referred to in the bibliography.

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ing materials that are not suited to the job.

Other factors enter into the question of why certain materials do not perform as they should. Improper air pressure, poor or incorrectly adjusted equipment, improper temperature control, untrained equipment operators, etc.; any one or more of these may prevent a finishing material from performing satisfactorily.

In any case, when a foreman finisher experiences trouble with his finishing he should spare no effort to find out what is really causing this trouble. Do not kick out the material until you determine whether or not the fault is in the finishing material or in something else. In doing this you will be playing fair to your employer, to the manufaceurer of the finishing material and to yourself.—*H. W. Chester.*

Allied Research Establishes Two New Subsidiaries

Allied Research Products, Inc., 4004 E. Monument St., Baltimore, Md., announces the establishment of two new subsidiary companies.

The first, Allied Metal Finishing Corp., will assume responsibility for the job shop metal finishing business previously conducted by the parent organization. Offices will be maintained in the building owned by the parent company and the sales service staff will remain the same.

The second subsidiary is called Allied Research Sales Corp., and was established to handle the national sales of the Iridite Metal finishes and ARP plating chemicals.

The parent company, Allied Research Products, Inc., will continue to manufacture both the Iridite and ARP compounds and will engage in a continuing program of new product research and development.

School of Spray Painting . . . Classes by DeVilbiss

The School of Spray Painting operated by the DeVilbiss Co. continues to offer tuition-free instruction in industrial spray finishing methods, according to an announcement of the following schedule of classes for the first half of 1952: Weeks starting Feb. 11, Mar. 24, Apr. 21, May 19 and June 23.

The school, which is maintained for users of DeVilbiss equipment, offers week-long classes for training in the theoretical and practical phases of spray painting. By means of lectures, visual education and actual use, "students" are taught the proper coordination of equipment and correct technique of spraying. There is no charge for attending. Applications may be made now for enrolling foremen, spray operators, shop superintendents and any others who wish to attend. Classes are held in the company's

At the DeVilbiss Co.'s School of Spray Painting, now starting its 27th year, class activity is combined with actual spray finishing practices in the one-week courses just announced.

new Customer Research Center at the main plant in Toledo. There, where all customer services are concentrated in one specially designed building, spray coating problems of all kinds may be submitted for recommendations based on experience, study and actual small scale production runs. The Center enables DeVilbiss users to keep abreast of new methods and equipment to reduce operating costs and increase output.

Those desiring information booklets or application forms should write as far in advance as possible to the DeVilbiss Co., Toledo 1, Ohio, for Form INS 753A.

Monsanto's Merrimac Div'n Sold to Raffi & Swanson

Monsanto Chemical Co. and Raffi & Swanson, Inc., announce the sale to the latter of the surface coating business of Monsanto's Merrimac Division at Everett, Mass.

C. H. Sommer, Merrimac general manager, said the decision to sell the coatings line was made in order to intensify the division's emphasis on production and development of industrial chemicals. One of the oldest and largest chemical plants in New England, the Merrimac Division has been manufacturing chemicals for nearly 100 years.

Under the terms of the agreement, acquisition of the manufacturing equipment and other physical assets has been arranged to enable Raffi & Swanson to maintain an uninterrupted supply of finishes to Monsanto customers. The purchaser is a Chelsea, Mass., firm with 28 years' experience in the manufacture of surface coatings.

Charles L. Raffi is president of the company. Martin S. Swanson, a former Monsanto employe, is treasurer.

Lithgow Becomes Lithcote Corporation

The name of Lithgow Corporation (applicators of Lithcote protective baked phenolic coatings and linings) has been changed to Lithcote Corporation. The President of the new company is Alexander T. Baldwin, former Vice President in Charge of Sales.

The Corporation also announces that, in cooperation with the Chemical Division of General Electric Co. and Shell Chemical Corp., it is applying two new baked coatings, using the former's R-108 resin and the latter's Epon resin. These coatings, known as Lithcote LC-33 and Lithcote LC-34, have practical application as linings for tank cars, tanks and industrial equipment. Custom coating is carried on by Lithcote Corporation, which maintains plants and offices in Chicago, Illinois, and Norwalk, Connecticut, with a sales office at 36 W. 44th St., New York City.

Random Comment on the Industrial Scene

(Continued from page 8)

er while still enabling him to offer a large color selection, he pointed out.

The new shades are called Tandem Tones because they are made by mixing equal amounts of two Devoe colors to produce a third, a new tone.

* * *

Talk-a-Phone. A new intercommunications system, combining many features of the Talk-A-Phone master-selective and deluxe models, and adaptable to a wide range of time and labor saving uses in industrial installations, offices and factories, is announced by the Talk-A-Phone Co. It is a flexible combination from which incoming calls may be answered from a distance of up to 40-ft. from any master station or sub-station, and in which master stations may talk with each other, sub-stations may be called selectively, or exclusively to any master station, and any master may be used privately or nonprivately at its own option.

* * *

Flexible Fabric Tubing. Spiratube, a new flexible fabric tubing for ventilation and product handling, is being made by Flexible Tubing Corp., Guilford, Conn. Spiratube is offered with vinyl plastic coating which gives good abrasion resistance for rough handling, and inertness to chemicals and oils.

Spiratube's light weight and accordion-like retractability make handling or shipping easy. It is nonkinkable and will not collapse under average fan suction pressures.

* * *

Better Drying and Durability. The development of many synthetic resins and the use of new types of finer pig-

Plated Effect Coatings

- NO DYES OR BRONZE POWDERS USED
- NON SETTLING — NON JELLING
- SUPERIOR ADHESION TO PRACTICALLY ALL SURFACES
- EXCELLENT LUSTRE & REFLECTIVITY.

ANOTHER NATIONAL EXCLUSIVE

NATIONAL LACQUER & PAINT CO., INC.
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SEND FOR FREE BULLETIN

PAINT STRIPING TOOL

NEW EYE APPEAL FOR YOUR PRODUCT— LITTLE OR NO LABOR COST!

Amazing new Paint Striping Tool makes it easy to do expert striping. Paints straight, curved, circular or evenly spaced parallel lines simply and easily. Simply fill Tubular Glass Paint Fountain with paint or lacquer and Knurled Wheel Tip feeds paint evenly. Tips interchangeable — 1/64", 1/32", 3/64", 1/16", 5/64", 3/32", 1/8"—jaws split apart for easy cleaning.

Use For STRIPING
- FURNITURE
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- SIGNS
- CERAMICS AND ALL PAINTED OBJECTS

DEALERS—MASTER PAINT STRIPING TOOL packed in display cartons of 1 doz. Fast, profitable seller. Write for illustrated circular, discounts.

WENDELL MFG. CO.
Dept. 912, 4234 N. Lincoln
Chicago 18, Illinois

Industrial Finishing's Pages Now Available in Microfilm

The complete pages of Industrial Finishing magazine for all 12 issues of Vol. XXVI (Nov. 1949 to Oct. 1950 inclusive) are now available to regular subscribers on microfilm, the facing pages being clearly reproduced side by side on a continuous strip of film 1⅜ inches wide and wound on a black pressed metal reel. The pages were photographed and made available in this form (convenient for storage and future reference) by University Microfilms, 313 N. First St., Ann Arbor, Mich.

The present price of a complete film rolled on a metal reel and double packed in a small mailing carton, is only $4.25 plus postage.

Quoting from a statement by University Microfilms—

"Articles from back issues can be supplied on microfilm upon individual request. Our minimum price for this service is $1.00 and this service fee takes care of most short articles."

ment dispersions are the "penicillin" of the paint industry, Eugene G. Bloch declared in a speech delivered at a meeting of the National Barrel & Drum Association which held a 3-day convention recently in New York City. "They have enabled paint manufacturers," he said, "to conquer a number of ailments that plagued them and drum reconditions. Putting it in more positive terms, these so-called miracle ingredients made it possible to produce superior enamels that combine two vital elements: quicker drying and very extreme durability."

* * *

Less Construction. Construction's dollar volume in the 37 eastern states is likely to run 10% less in 1952 than in 1951, in the opinion of F. W. Dodge Corp., construction news and marketing specialists.

Because the Dodge yearly construction advance estimates are geared to the Dodge construction news gathering operations in the 37 states east of the Rockies, they have proved over the years to have high reliability.

Residential building will decline more than any other classification, according to the Dodge outlook, while public works and utilities will decline the least.

Robert W. Pillsbury to Head Burdett Sheet Metal Div'n.

As a step forward in the expanded oven engineering and bulding program of the Burdett Mfg. Co., Mr. Robert W. Pillsbury has been appointed superintendent of the sheet metal division. Mr. Pillsbury's long association with the sheet metal business makes him well qualified for this position.

Expansion of both Burdett facilities and personnel is said to be designed to further the use of this company's famous "Radiant-Heat" principle of heat processing to many fields heretofore not touched. Pioneered by Burdett, the "Radiant-Heat" principle has shown remarkable results in time and labor savings in such operations as drying and burn-off.

Blast Cleaning Demonstration

So that potential users can see blast cleaning and dust control equipment in operation, the Pangborn Corporation has inaugurated a new Demonstration Room at its plant in Hagerstown, Maryland. The room, 58x61-ft. in size, was operated before an audience for the first time at Pangborn's September open house.

Machines on display range all the way from a hard hitting 15-ton Rotoblast monorail installation (the type used by the automobile industry to blast clean as many as 240 engine cylinder blocks per hour) to Pangborn's "Mighty Midget"—a special miniature (90-lbs.) adaptation of Hydro-Finish, a liquid blasting process which can be used on materials as delicate as wrist watch gears.

Other machines to be seen include a big "Continuous-Flo" Rotoblast Barrel of the type used by Ford, Buick, Grinnell Corporation (automatic sprinklers) and many other industries for continuous, production-line blast cleaning of small castings; a large Rotoblast Room for blast cleaning of king-size castings; a 9-ft. Rotoblast Table, one of industry's most versatile cleaning room tools; a standard Hydro-Finish Cabinet—widely used to provide smooth finishes on dies, molds and precision equipment built to close tolerances; a small Airblast Barrel with unit-type Dust Collector; and Airblast Cabinet, also with unit type Dust Collector; and the interesting new portable soft abrasive ("corn cob") blast cleaning machine. This latter machine, a recent Pangborn development, utilizes compressed air and finely ground corn cobs to blast the dirt, rust and grease off electric motors and mechanical equipment without damage to wiring, gears and precision parts.

PEARL ESSENCE

"Astralucine Brand"
Produces a high luster
on a variety of finishes

Write for your free copy of our informative Technical Bulletin
"Pearl Essence Finishes"
—what they are and how to use them.

Argenta Products Co.
EASTPORT, MAINE

NCP Now Represented in New England Area

The National Chemical & Plastics Co. of Baltimore, Md., manufacturer of quality lacquers and lacquer products, announces that Mr. Arthur Mandell has joined its sales staff and will represent the company in the New England area. Mr. Mandell is well known in the industry and will give excellent service with the utmost courtesy to all those who come in contact with him. He resides at 27 S. Crescent St., Brighton 35, Mass. Telephone—Stadium 2-6042.

Finish Engineering Co. . . . New Concern in Erie, Penna.

Two men, Mr. Robert B. Way and Mr. Carl Hersey, formerly Chief Engineer and Shop Superintendent of another well known concern, have organized a new firm which is called Finish Engineering Co., Inc., located at 1115 Cherry St., Erie, Penna.

The company is in business to offer the following services:

1) A basic engineering service and process planning for production detail painting.

2) To provide in its plant, a reliable source for large production runs requiring single or multi-color paint application, as applied to the plastics, die casting and stamping field.

3) To provide decorating tools and machinery of the latest design, including an automatic mask washing machine; vacuum plating racks, custom designed; masking fixtures and tools; spray painting masks; handling devices, specially designed; and automatic painting machines, semi and fully automatic.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion. Regular display advertising rates apply on fractional page display ads running in this department. Rate card on request.

SALES POSITION WANTED.

Chemist, experienced in Technical Sales Service of industrial finishes and paint raw materials. Familiar with formulating, production and application. Philadelphia and surrounding territory preferred. Address IF-853, care Industrial Finishing.

FINISHING ROOM FOREMAN WANTED.

T. V. Cabinet manufacturer in Brooklyn. Permanent position for man with plenty of know how. Must be experienced in the highest quality of work. Salary to $125.00 per week, depending on qualifications. Give complete details in first letter. Address IF-854, care Industrial Finishing.

FINISHING FOREMAN WANTED.

Nationally-known manufacturer of novelty furniture in mid-south has an opening for a finishing foreman, capable of supervising finishing and rubbing departments. He must be able to produce quality finish on production basis. Address IF-855, care Industrial Finishing.

FINISHING FOREMAN WANTED.

Manufacturer in Pennsylvania requires expert finisher on wooden cabinets and furniture. Capable of handling large finishing department and at least 100 men. Must have knowledge both technical and practical in all finishing phases. Good salary. In reply give full and complete details and references. Address IF-856, care Industrial Finishing.

B. S. CHEMIST WANTED,

Or Chemical Engineer, experienced in formulation of organic protective coatings for development of Industrial finishes. Excellent opportunity for advancement. In reply give detailed personal data, educational background and formulation experience. Write or phone: George Neumann, Jones-Dabney Co., 1481 S. 11th St., Louisville 8, Ky. Phone Magnolia 6900.

PAINT SHOP SUPERINTENDENT WANTED.

Leading producer of home appliances located in small midwest town needs steady, reliable, thoroughly experienced finishing foreman who is capable of becoming paint superintendent within a few months. Must know metal finishing, metal cleaning and treating, paint spraying, sludge collection, equipment, maintenance and conveyor schedule. Job requires first-class man and pays accordingly.

Please give full information on past experience, employment record, personal references and salary required, in first letter. Replies kept confidential if you desire. Address IF-857, care Industrial Finishing.

CHEMISTS WANTED.

Excellent opportunity is extended to two B. S. Chemists or Chemical Engineers, one experienced in the formulation of industrial enamels and the other sufficiently experienced and qualified in the formulation of nitrocellulose lacquers to be a group leader. Please send a resume of formulation experience, academic training and personal facts. Lower mid-west location. All replies to be held strictly confidential. Address IF-837, care Industrial Finishing.

SALESMAN WANTED.

Experienced Industrial Salesman selling vinyl, lacquer, synthetic finishes. Wonderful opportunity. Old established progressive company near Philadelphia. Territory, Eastern Pennsylvania and New Jersey. Apply in detail. Strictly confidential. Address IF-843, care Industrial Finishing.

VARNISH MANUFACTURER

With 2,000 gallon stainless steel kettles, is interested in large volume business. Also have Hi-Speed Roller Mills to grind pigment goods. We would like to contact either salesmen who have accounts or plants direct and are in a position to buy quantities. Have semi-trailer trucks to deliver any place in the United States. FRANK GILL CO., Wisconsin Rapids, Wisc.

WANTED.

Used automatic spray machine, chain type or rotary table. GIERING METAL FINISHING CO., 194 Main St., East Haven 12, Conn.

SALESMAN WANTED

To represent fast growing Chicago Industrial Paint Manufacturer to sell production finishes in Northern Indiana, Illinois and Metropolitan Chicago. Replies held confidential. Address IF-829, care Industrial Finishing.

SALESMAN WANTED.

Progressive Eastern Lacquer Manufacturer with a complete line of synthetic and lacquer protective and decorative finishes, also specializing in automotive products, wishes additional representation in metropolitan area, New Jersey and Connecticut. Other territories open. Excellent opportunity beyond ordinary sales commission, for exceptional man who has an established clientele. Address IF-858, care Industrial Finishing.

DO YOU SELL SPRAY FINISHING EQUIPMENT?

An expanding 23-year-old manufacturing company desires active sales representation. Will pay high commission in protected territory to qualified man. Line is complete with high acceptance in established territories. Our representatives know of this ad. Address IF-849, care Industrial Finishing.

WANTED: STRIP COATINGS REPRESENTATIVES

Prominent long-established producer of highly-regarded line of strip coatings for metal working, protective packaging, spray booths and kindred uses, invites correspondence with soundly-established distributors or manufacturers' representatives in the Kansas, Oklahoma, Texas, Missouri area as well as in Chicago, Pittsburgh and Cincinnati territories. Existing business, protected territory and excellent support for man or organization that intelligently and aggressively covers industrial plants. We have other profitable products you can also sell, if you do a job on the above line. Our present distributors and representatives know of this ad. Reply in confidence. Address IF-850, care Industrial Finishing, Indianapolis 4, Ind.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

SOLVENT CLEANING SERVICE.

Dirty lacquer solvent can be shipped to us for distillation and returned to you clean and ready for use. Within 200 mile radius of Louisville a substantial economy can be realized. Cost runs from 14c to to 19c per gallon. KENTUCKY COLOR & CHEMICAL CO., 600 N. 34th St., Louisville 12, Ky.

FOR SALE.

One DeVilbiss water wash spray booth, 18x10x7-ft. 600-gallon tank complete with pumps, exhausts and lights. Good condition. Address IF-859, care Industrial Finishing.

FOR SALE.

Detrex Model 3D650 degreaser. 3-stage, steam pressure 60-lbs. Current 1 phase, 110 V, 60 cycle. Size 6510 dimensions A-7'-1", B-4'-0", C-5'-6", D-21", E-21", F-24". Address IF-860, care Industrial Finishing.

FORD CUPS

THE VOL-U-METER COMPANY

Buffalo 16, New York

FOR SALE.

Gehnrich indirect gas heater. No. 1H-2 for forced drying. Gas fired, complete with all accessories, thermostat control. THE NURSERY FURNITURE CO., INC., 21-09 Borden Ave., Long Island City, N.Y.

PAINT STRAINERS

FOR STRAINING LACQUERS, ENAMELS, PAINTS OR VARNISHES.

Made of heavy paper stock with cloth inserts in coarse, medium, fine or extra fine mesh. 6" in diameter.

LOUIS M. GERSON CO.

BOX 175 MATTAPAN, MASS.

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You save time . . . make short work of cleaning . . . when you use a spray-washer compound that's right for your job.

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111

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for batch or continuous production

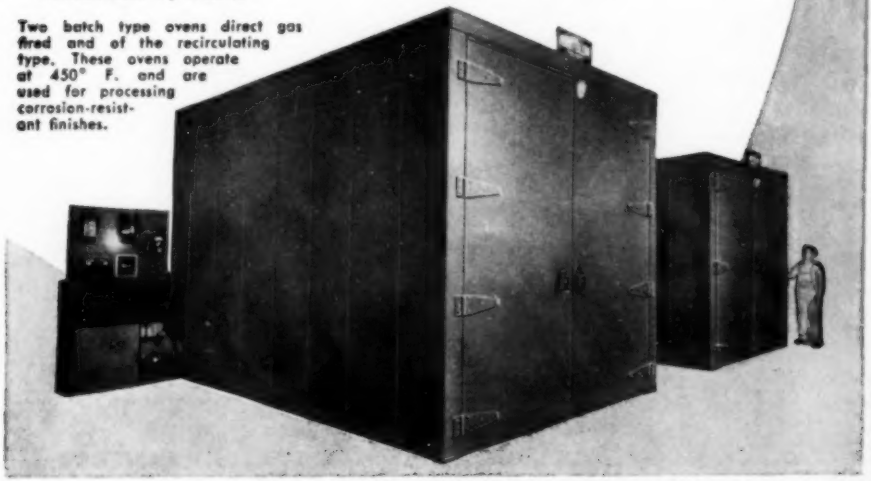
KIRK AND BLUM industrial ovens

• **Save Space** • **Speed Production** • **Improve Quality**

Compactly designed and expertly engineered to meet specific production requirements, these recent installations illustrate KIRK & BLUM Ovens built for many uses.

From mammoth conveyor ovens for high production to the smallest laboratory units, KIRK & BLUM Industrial Ovens are equipped with complete temperature and safety controls to assure performance . . . to insure quality results.

Many ovens are shipped complete from the new KIRK & BLUM plant, ready to use as soon as necessary connections are made.

Write for booklet, "Industrial Ovens," showing other typical installations. The Kirk & Blum Mfg. Co., 3131 Forrer Street, Cincinnati 9, Ohio.

Two batch type ovens direct gas fired and of the recirculating type. These ovens operate at 450° F. and are used for processing corrosion-resistant finishes.